Canadian Environmental Advisory Council
Conseil consultatif canadien de l'environnement

Canadian Environmental Advisory Council

Review of the Proposed Environmental Protection Act

March 1987

Canadian Environmental Advisory Council
Ottawa, Canada
K1A 0H3

Canada

Canadian

Environmental

Advisory

Council

Review of the Proposed
Environmental Protection Act

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ROLE OF THE
CANADIAN ENVIRONMENTAL ADVISORY COUNCIL

The Canadian Environmental Advisory Council (CEAC) is a body representing a cross-section of Canadians who are knowledgeable and concerned about the environment. It operates in a confidential advisory capacity to the Minister of the Environment. It provides the Minister with an alternative to the advice provided by the Department of the Environment and other federal agencies, and to the advice of specific interest groups. Council's public role, in terms of activities such as the publishing of reports, is therefore secondary to its primary function of providing advice to the Minister of the Environment.

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ACKNOWLEDGEMENTS

The Canadian Environmental Advisory Council (CEAC) undertook, at the request of the Minister of the Environment, a review of the draft Environmental Protection Act that was tabled in the House of Commons on December 18, 1986. The Council was able to begin planning its course of action on January 5, 1987. This commentary is the result of a Workshop held in Toronto on February 11-12.

A review could not have been undertaken in the relatively short time available without active encouragement by the Honourable Tom McMillan, Minister of the Environment. Nor could its success have been assured without the dedicated effort of the members and former members ("alumni") of the Council who, on very short notice, adjusted their schedules in order to devote time to preparation for the Workshop, to participation in it, and to preparation of this report. A list of the participants appears in this report as Annex 1.

Council would like to note in particular the contributions by two former members who prepared background papers for the Workshop: Professor A.R. Lucas and Dr. Donald Mackay. Their papers have been included as Annexes 2 and 3 to this report.

Officials of Environment Canada provided background documentation and a briefing on the draft Bill at the opening session of the Workshop.

INTRODUCTION

Growing recognition of the importance of environmental concerns led to a flurry of legislative activity in the federal government during the late 1960s and early 1970s, including the establishment of Environment Canada in 1972. The pace slowed perceptibly during the late 1970s. In the 1980s, emphasis shifted to the "fine-tuning" of existing acts and regulations.

The draft Environmental Protection Act merits recognition and support as the first major federal environmental legislative initiative of the 1980s. Apart from its strengths and weaknesses, it represents long overdue action. The Council congratulates the Minister for persevering in his determination to introduce this more inclusive protection Act for approval by Parliament in 1987. The process by which task forces representing industry, government, labour, environmental groups, and consumers met to clear the ground and to individually and cooperatively identify problems and solutions as initial input to the draft Act is exemplary.

A major innovation is the consultative effort which has accompanied the introduction of the draft legislation. Some degree of consultation, usually on a limited and confidential basis, is a normal preliminary step in the drafting of new legislation. A somewhat unusual process is being followed with the proposed Environmental Protection Act: tabling in Parliament of a draft Bill, a public consultation effort based on the draft, and finally tabling of a revised Bill in Parliament for first reading. Although the amount of time allowed for consultations is constrained, the Council supports in principle this consultative approach to legislation in the environmental field. Canadians consistently demonstrate their keen interest in the environment, and therefore deserve every opportunity to comment on proposed legislation which will affect the environment of which they are a part.

This report of Council's review of the draft Bill contains suggestions and recommendations as well as a number of criticisms which are offered constructively. From the Council's perspective, their adoption would lead to improvements in a worthwhile initiative. The criticisms and recommendations should also be considered in the circumstances in which they were generated: the first major environmental legislative initiative at the federal level in several years, and public consultation during the draft stage. If those circumstances had not existed, the criticisms and recommendations could not have been generated and offered.

The Council realizes that this is not an exhaustive review of the Act. It was limited by the time and resources available to the Council. Although an effort was made, particularly in Part II of this report, to identify the implications of Council's recommendations for other sections of the Act, some may have been missed. The changes proposed in Part I are identified as "recommendations", "suggestions" or "views", but the difference in form is not a measure of the priority given by Council to the various proposed changes. All are printed in *italics* for convenient reference.

OVERVIEW

The Canadian Environmental Advisory Council (CEAC) reviewed the proposed Environmental Protecion Act at the request of the Minister of the Environment. That review brought forward more than 50 recommendations for changes in the proposed Act, and in the way the Act should be implemented and administered. They are described in Part I of this report and proposed amendments to the Act are consolidated in Part II. No attempt has therefore been made in this Overview to summarize the recommendations, but rather to briefly describe the context in which the review was undertaken and some of the main themes which emerged during the discussion.

The 1980s are a challenging era in which to create environmental legislation that will serve, and that will be perceived to serve, as an effective guardian of the quality of our environment. There is widespread understanding today that all human activities, including economic performance and human health, are inextricably linked to the quality of the natural environment; and that the threats to the environment are not all straightforward and apparent but are frequently indirect and insidious. Concern about threats to the environment is deep and widespread, embracing all sectors of society from public interest groups to industry. It is within this context of current conditions, state of knowledge, and public expectations that the Council reviewed the proposed Environmental Protection Act.

The Council realized that it could not undertake a comprehensive in-depth review because of the constraints of time and resources. It therefore made a conscious decision to concentrate on specific elements of the draft Act, and to put aside certain aspects which could not be examined in the time available. The latter included: the relationship of the draft act to other federal environmental legislation, particularly to Section 33 of the Fisheries Act; the connections between the proposed Act and related legislation and practice at the provincial, territorial and municipal levels; a comparison with environmental legislation in other countries, notably the United States, in view of the current negotiations on free trade; and an assessment of the implications of related recommendations by the Law Reform Commission.

The members of the Council reached a consensus on the question of "scope" early in the discussions during the Workshop organized by Council on February 11-12. Members believe that the title of the Act implies a broader approach than is justified by the contents of the draft Act. They favour broadening the content of the Act rather than narrowing the title to, for instance, a "toxic substances control act". This view in favour of a more comprehensive Act is reflected in a number of recommendations in the report including: application of the Act to products of biotechnology, inclusion of authority for the Minister to make regulations regarding the Environmental Assessment and Review Process (EARP), and clarification of powers to establish emission standards for control of domestic air pollution.

A recurrent theme throughout the Council's discussions was that of ministerial authority. The Council agrees that the federal Minister of the Environment should serve as an environmental leader and advocate, but it believes that the Minister's authority is unnecessarily limited by the language of the draft Act. The Council believes, for example, that the Minister should have the authority, without reference to Cabinet, to issue a "stop" or "clean-up" order in the case of a toxic spill or accidental release. Questions were also raised about the need for <u>both</u> the Minister of the Environment and the Minister of National Health and Welfare to recommend to Cabinet the listing or de-listing of a substance as a preliminary step to regulation, and recommends that authority for that action be assigned to "either Minister". The Council also urges that the Minister of the Environment be given authority to recommend to Cabinet environmental standards and regulations, rather than unenforceable guidelines, governing the "federal works and undertakings" of other federal departments and agencies.

The Council believes that a balance must be maintained between two vital considerations: timing (ensuring that there are no unnecessary delays in the regulatory process), and public involvement (which tends to be time-consuming). If any imbalance occurs it should be on the side of public involvement because the environment is vital to the health and economic well-being of the country. An effort should be made to ensure that there are equal opportunities for all sectors of Canadian society to participate in the regulatory process. Views on public involvement appear in several sections of the report but particularly in "Board of Review Process" and "Public Involvement", and include recommendations on: the right to petition Ministers to list or de-list substances as toxics; the right of appeal against ministerial decisions, including a decision not to list a substance as toxic; intervenor funding; the membership and procedures for Boards of Review; and the right of any person to initiate legal action in relation to any environmentally damaging activities under federal jurisdiction.

The Council recognizes that some of its recommendations have the potential to add further delays to what may already be lengthy regulatory processes. It is concerned with timing in two respects: the "start-up" or period for initial implementation, and the amount of time required for the various processes on a continuing basis, particularly in the control of toxic substances. Its concern was heightened by the fact that in 12 years only five substances or classes of substances have been added to the list of toxic substances under the present Environmental Contaminants Act. It recommends that the proposed Act be given a "jump start" by including in Schedule IV of the draft Act a list of substances that are "generally recognized as toxic". Other recommendations aimed at reducing delays in the ongoing process include: time limitations at various stages of the review and appeal process; possible limitations on the stages at which boards of review can be required; and possible appointment of a permanent Board of Review with revolving membership.

In the Council's view, one of the main factors that will affect the timing and long-term effective implementation of the Act is the adequacy of resources, particularly highly qualified, specialized staff in Environment Canada. It does not appear to the Council that the scientific capability currently exists

in Environment Canada -- there are approximately 12 professionals in the Department's Commercial Chemicals Branch, compared to 200-300 in the equivalent group in the United States. The Council recommends an increase in the number of scientifically trained chemists and ecotoxicologists in Environment Canada, but cautions against any re-allocation of existing staff that would result in a decline in the effectiveness of other programs of the Department. To meet the overall requirement in the most cost-effective manner, the Council offers several additional suggestions including: extramural funding should be used to encourage development of expertise outside of government; and short-term needs should be met by hiring on a temporary basis from the private sector, and by accessing or contracting for assistance on a world-wide basis.

Another factor that will affect implementation of the proposed Act is the promised Enforcement and Compliance Policy. The Council regrets that, because only an outline rather than a draft policy statement was available for review, it was unable to make a significant contribution on this subject. The Council's views on past enforcement practices are expressed in an annex to this report.

The main text of the report contains many other recommendations that have not been mentioned in this Overview. All are offered in a constructive sense -- as a means of improving a commendable initiative.

PART I

GENERAL COMMENTARY

Canadian Environmental Advisory Council
March 9, 1987

PREAMBLE AND PHILOSOPHY

Certain widespread threats to the planet's environment - such as deforestation, desertification, and accompanying soil erosion - are readily recognized. No less serious for being less visible are insidious releases of toxic substances, the results of industrial, commercial and domestic activities which produce a vast array of pollutants. Heavy metals, radionuclides, hydrocarbons and sulfur compounds that formerly lay inert or safely sequestered beneath sediments have been brought up through bore holes and mine shafts to be processed and manufactured for use in society. Some of their malign effects are known, including deterioration of the ozone layer, increased ultraviolet and other ionizing radiation, a lowered surface pH, more atmospheric carbon dioxide, higher loadings of dangerous chemicals in food and water, and near extinction of certain organisms as a result of environmental poisoning.

In a profound sense, humanity is setting the geological clock back, tending to restore an early, pre-life, hostile environment when acid rain washed the "hot" metallic rocks of a radioactive world.

Safer technologies, using more benign materials and energy sources, can arrest and reverse this dangerous trend. As an interim measure, however, the careful management and containment of all toxic substances in use must be the goal. The proposed Act is a step toward this end.

The proposed Act will broaden the scope of the Environmental Contaminants Act that it replaces, with inclusion of parts of the Department of the Environment Act, the Canada Water Act, and the Clean Air Act. It proposes to update and improve the means whereby dangerous substances are identified, scheduled, and controlled. The Council, with a history of concern about ecotoxicity, fully supports the goals sought by the Act within the context of a comprehensive approach to environmental protection. It is to this broader context, rather than to human welfare alone, that ultimate reference should be made.

The Minister and his Department are primarily responsible for the Canadian portion of the environment that constitutes the life-support system of all organisms including the human race. This specific responsibility and orientation to the environment defines the unique mission of Environment Canada, as compared to that of other departments such as Agriculture (crop-oriented), Transportation (vehicle-oriented), and Health and Welfare (people-oriented).

Like its provincial counterparts, Environment Canada has had difficulty defining its role vis-à-vis other departments due to the historic distribution of governmental responsibilities before major concerns for the environment appeared in the 1960s, and because <u>all</u> human activities are necessarily carried on in the context of the environment. If, however, environment is recognized as the three-dimensional air/land/water ecosystem matrix in which organisms function, then the focus of Environment Canada's responsibilities is sharpened.

The r le of the Minister of the Environment and of Environment Canada should be to ensure that the Canadian ecosystem as part of the world ecosphere is maintained in health, beauty, and permanency as the context for a healthy people and economy. The ecosystem should not be jeopardized by overuse, nor by actions that impact unfavorably on its air, water, land, and living sub-parts. With priorities so formulated, protection from contaminants is extended first to the enveloping ecosystem (i.e. the environment) and then through it, to people.

From this point of view, Environment Canada's first priority is "environment-as-ecosystem", and then (important but derivative from environment) human health and welfare. Minor rewording of the new Act can reflect this primary concern for environmental health, particularly in the Preamble of the Act as discussed in this commentary under "Title, Scope, and Intent".

Placing ecosystems rather than people at the centre of Environment Canada's concerns suggests a corollary; namely, that the back-up science and research needed by Environment Canada for its functions of protection and management are unlikely to be provided by other government agencies. Ecosystem research relating the behaviour and cycling of chemicals to their transformations and toxicologies is not attended to in any consistent and continuous way by other departments. Therefore Environment Canada needs to rapidly build the research capability on which it will depend, a subject developed in the body of this report. The limiting factor in the proposed Act's performance of its protective functions may well be the person power in the Department's science sector.

The same can be said with respect to knowledgeable evaluations of the environmental impacts of polluting industrial, commercial and domestic activities. The recommended inclusion of enabling clauses in the proposed Act to allow establishment of the federal Environmental Assessment and Review Process (EARP) on a statutory basis fits well with the environmental protection thrust. In practice, however, the Process must always lean heavily on sound ecological research and on the understanding possessed by personnel who engage in it. For these reasons, the Council again draws the Minister's attention to the need for expanded investment by the Department in scientific research to build an effective environmental knowledge base.

TITLE, SCOPE, AND INTENT

Title and Scope

The long title of this Act is: "An Act respecting the protection of human life and health and the environment". We are concerned that this tends to define the environment in terms of human life and health rather than pointing toward the wider concerns and complex interactions within the ecosphere of which man is part. No comprehensive environmental protection strategy is possible if it is to be only human-centred. Secondly, the focus on the environment is the feature which makes the mandate of Environment Canada separate from that of Health and Welfare Canada. ***We recommend that the formal title of the Act be changed from: "An Act respecting the protection of human life and health and the environment", to: "An Act respecting the protection of the environment and human life and health".***

The short title, "Environmental Protection Act", implies a wider approach to environmental protection than the contents of the proposed Act deliver. We believe that this encourages criticism by arousing expectations which are not fulfilled by the draft Act. ***It is our recommendation, however, that the comprehensive nature of the title be retained and that further measures of protection be added including those proposed in this commentary.***

Given this approach, one problem remains. The abbreviation "EPA" is recognized in international environmental circles as the United States Environmental Protection Agency. Considerable confusion will result if the central piece of Canadian environmental legislation is also referred to as the "EPA".

If the government proceeds as suggested above with a broad protection bill, ***the Council recommends that the title be changed from Environmental Protection Act (EPA) to the Canadian Environmental Protection Act (CEPA) or the Environmental Protection Act of Canada (EPAC).***

Other changes in the text of the Act, consistent with the suggested change in formal title, should be made in the Declaration, the Preamble and in Sections 5, 11 and 18. The proposed changes are reflected in Part II of this report.

Definitions and the Intent of the Act

Certain key words, as used in the proposed Act, require additional definition or clarification. "Substance" and "class of substance" are included in Section 2, Interpretation. However, doubt remains as to:

(1) whether existing as well as new chemicals are "substances" encompassed by the proposed Act; and

(2) whether "substance" includes chemicals and mixtures of chemicals present in effluents and emissions released into the environment.

To achieve the necessary comprehensiveness without the ambiguity that invites litigation, the inclusion of all of the above within the terms "substance" and "class of substance" should be clearly stated in the Interpretation section.

The second issue concerns the definition of the words "toxic" and "toxic substance" as given in Section 5 of the proposed Act. This is very important, because only if a substance is judged toxic by the Minister (Section 9) does the whole regulation process apply. It is therefore essential to define clearly what the word "toxic" means in order that effective decisions can be made on protective measures. As treated in Section 5, the substance is considered to be toxic if it "constitutes or will constitute a significant immediate or long-term danger in Canada or any area thereof to human life or health or the environment", or if it "has a deleterious and largely irreversible effect on the environment and thereby may likely interfere with the biological processes on which human life depends".

From the above, it could seem that the burden of proof is to show that a substance is toxic because it does cause harm or will cause harm and that harm will be irreversible and significant. The problem is that its "poisonous" chemical properties are not the only factors that determine whether a chemical causes a significant toxic effect; the quantity of the dose (or environmental concentration), how the chemical contacts the organism (e.g. in air, water or food), and the duration of contact between the chemical and the organism are also critical aspects which, together, determine the exposure and thus the degree and significance of the toxic effect. Even common salt can become toxic and is, in some areas, an insidious environmental problem. It is therefore not only the inherent properties of a chemical, but the way in which it is used, the quantity used, and the duration of exposure that combine to cause an event or condition which we describe as "toxic". Lawyers could argue that it is not appropriate to regulate a particular substance, such as an arsenic compound, because it is planned to be used in such a way that it will not cause significant immediate or long term danger or have largely irreversible effects on the environment. We believe, however, that it is necessary to control chemicals which have the potential to be toxic, not just those which have been proven or will be proven to cause damage.

Furthermore, some of our most serious toxic problems have arisen as the result of the release to the environment of relatively small amounts of persistent toxic chemicals (such as the dioxins) that also have properties that result in bioaccumulation (in individual organisms) and biomagnification. In the case of the latter, they become increasingly concentrated, and therefore in effect increasingly toxic, as they move up the food chains. It may take decades, however, for these effects to show up or to be recognized, and they are often manifested, not in the area of immediate release, but where the media

of transport (air, water, food organisms) may have taken them. Thus not only must actual amounts of these types of chemicals be recognized through regulation, but their persistence, environmental behaviour and probable fate must also be taken into account. The properties of most substances that can cause these types of effects are reasonably well known. Such substances must be regulated on the basis of their potential toxicity. It is unacceptable and not in the spirit of the "cradle to grave" management philosophy to await demonstrations of the deleterious effects in the environment.

Other examples will further illustrate the problems involved in the definition of "toxic". In many cases, we are dealing with mixtures of large numbers of substances in the environment in which the individual damage caused by any one substance alone would not be particularly significant, but the total combined effect causes damage. Such cumulative effects need to be recognized as toxic.

The irreversibility of an effect is also not necessarily a good criterion for determining toxicity. It could be argued that the capacity of the environment and the human population to recover in the long term from disastrous toxic events such as poison gas episodes associated with volcanic events or events such as occurred at Bhopal, Sevesso, Minimata or Ixtoc means that such changes are not necessarily "irreversible" when viewed in the time span of a decade or a century or two. But they would certainly be classed from anyone's point of view as "significant toxic events" to be avoided at all costs. Thus "irreversibility" is a criterion that must be used with informed judgement when determining "toxicity" for the purposes of this Act.

Since it is clear from the Preamble that the proposed Act is to be applied to only "certain substances" which "place in jeopardy" the environment and the life and health of the people of Canada, it is very important to define which substances are involved. The criteria which make the Act applicable to certain substances and not to others must be quite clear. It would be an environmental tragedy if the Act became hung up on legal arguments as to whether or not it is the intention of Parliament to apply the Act to certain classes of substances including existing chemicals, new chemicals, emissions and effluents, substances of fairly low toxicity used in large amounts, and those of high toxicity which are used in small amounts, and those which may cause severe short-term but reversible effects. Questions of potential versus actual toxicity also arise, as does the issue of cumulative effects. ***The important criterion or overriding principle should be that the substance or class of substance is matter which has the capacity to cause adverse environmental effects regardless of its source or nature. This fundamental intent of the Act must be stated clearly, and must be satisfied in its application.***

STANDARDS AND GUIDELINES

The Council finds it unfortunate that the first authority provided under the proposed Act, through Section 4, only entitles the Minister to formulate environmental objectives and guidelines, not regulatory standards.

Council believes that it is important to distinguish between environmental guidelines and regulatory standards in terms of their respective nature and purpose. Both guidelines and regulatory standards may take the form of specified limits for particular contaminant substances, either in ambient air, water, or soil under specified conditions, or that may be released from specific sources. There is, however, an essential difference between "standards" and "guidelines". Regulatory standards are normally used to describe specified contaminant limits that have been prescribed by law in the form of statutes, regulations or authorized approvals. They are backed by penalty and other statutory enforcement powers, and consequently are legally enforceable. Guidelines on the other hand are made and published under broad ministerial powers to carry out research, educate, persuade, and generally to foster environmental protection. Statutes do not normally provide that infringement of guideline values is contrary to the Act and subject to enforcement proceedings.

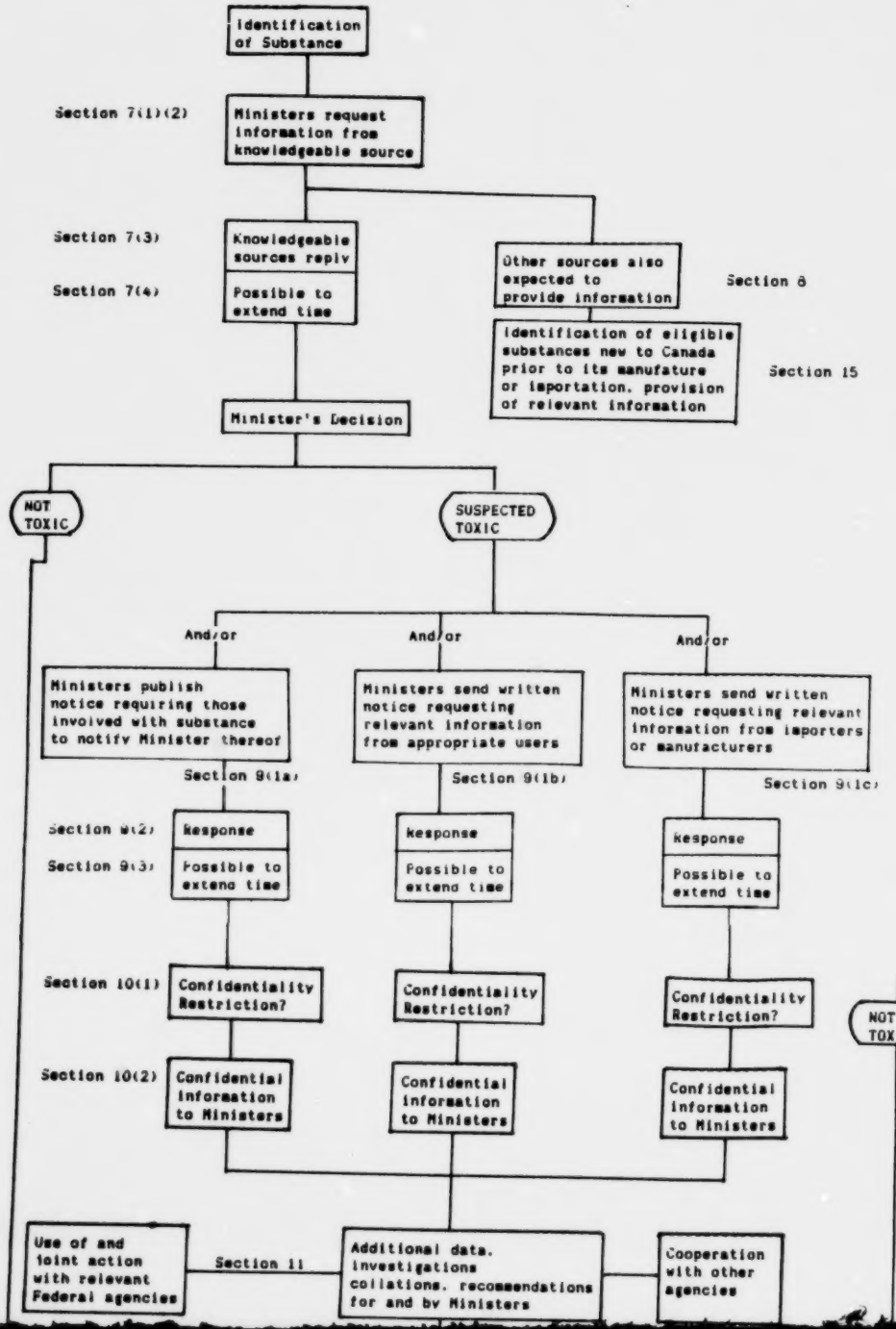
Regulatory standards are direct coercive measures that are intended to be enforced. They are the essential units for the prescription of legal environmental protection limits. Guidelines are useful mainly as objectives to strive for, and as models to be "sold" to other authorities or other levels of government. They are essential tools for an environmental protection "leader" or "advocate" and may, for example, be indispensable in the process of enhancing provincial standards where necessary, and generally in harmonizing federal and provincial environmental standards.

It should be made clear that it is guidelines, in the sense described above, that are provided for under Sections 4, 30 and 35 of the Act. There should be no intimation that guidelines under these sections are capable of direct legal enforcement.

One consequence of this distinction between guidelines and regulatory standards is that if contaminant values are intended to be enforced, they should be in the form of standards, prescribed by regulation and linked to enforcement powers. Council assumes that it is intended that all environmental requirements under the proposed Act related to matters within federal legislative jurisdiction should be capable of legal enforcement. ***Therefore, it is appropriate that as a matter of consistency, environmental requirements to be observed by federal departments, boards and agencies should, like other standards under the proposed Act, be established by regulation and made subject to the enforcement and compliance provisions in Part V. It is recommended that Section 30 be reworded so as to provide for the establishment of regulations, not simply guidelines for the protection of the environment.***

A clause should then be added to Section 52 to provide that every person who contravenes or fails to comply with any regulations made under Section 30 is guilty of an offence.

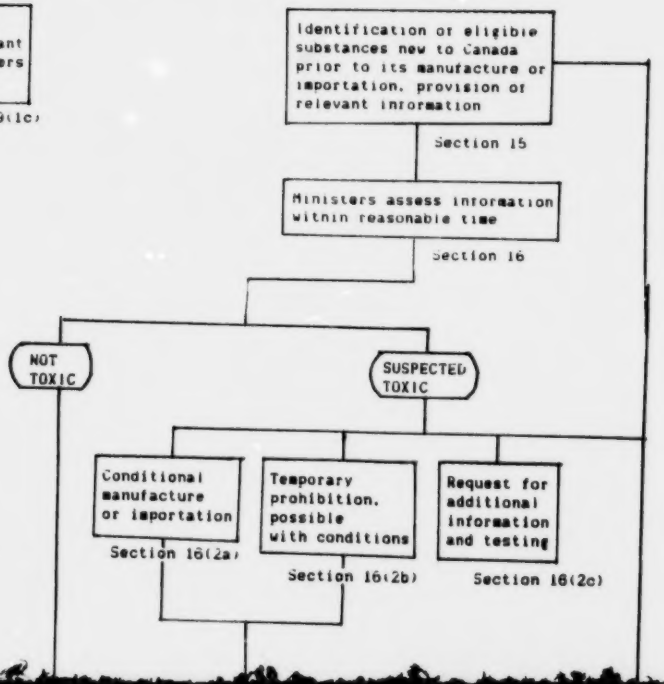
EXISTING CHEMICAL STREAM



Note

Figure 1 represents Council's interpretation of the process for assessment of the toxicity of substances through to the stage of making regulations. This is an interpretation based on the relevant sections of the proposed Environmental Protection Act. It was prepared for reference purposes and does not represent a planned proposed process.

NEW CHEMICALS STREAM


Identification or eligible substances new to Canada prior to its manufacture or importation, provision of relevant information
Section 15
Ministers assess information within reasonable time
Section 16
NOT TOXIC
SUSPECTED TOXIC
Conditional manufacture or importation
Section 16(2a)
Temporary prohibition, possible with conditions
Section 16(2b)
Request for additional information and testing
Section 16(2c)

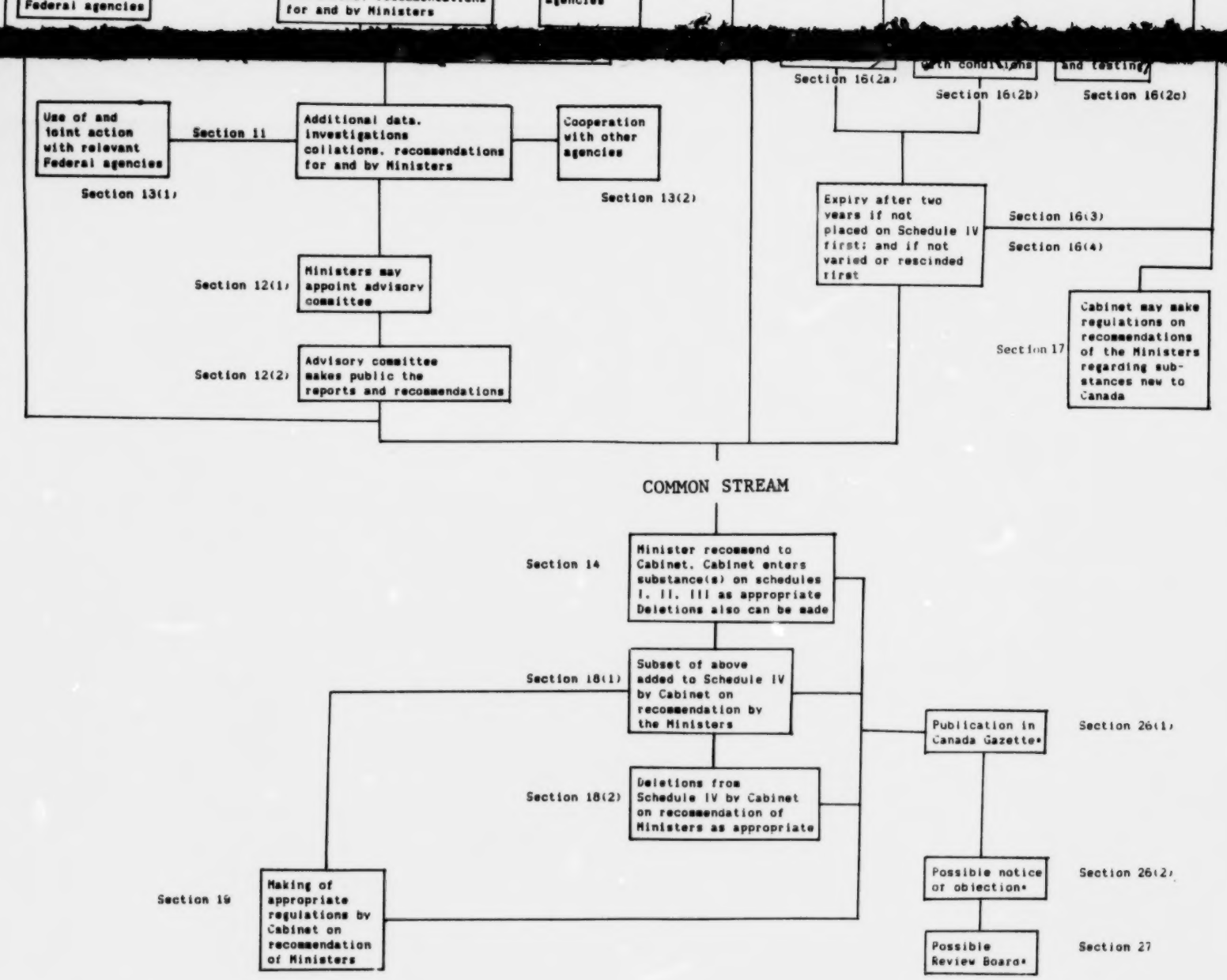

Federal agencies
for and by Ministers
Section 16(2a)
Section 16(2b)
Section 16(2c)
Use of and joint action with relevant Federal agencies
Section 11
Additional data, investigations collations, recommendations for and by Ministers
Cooperation with other agencies
Section 13(1)
Section 13(2)
Expiry after two years if not placed on Schedule IV first; and if not varied or rescinded first
Section 16(3)
Section 16(4)
Ministers may appoint advisory committee
Section 12(1)
Advisory committee makes public the reports and recommendations
Section 12(2)
Cabinet may make regulations on recommendations of the Ministers regarding substances new to Canada
Section 17
COMMON STREAM
Section 14
Minister recommend to Cabinet. Cabinet enters substance(s) on schedules I, II, III as appropriate Deletions also can be made
Section 18(1)
Subset of above added to Schedule IV by Cabinet on recommendation by the Ministers
Section 18(2)
Deletions from Schedule IV by Cabinet on recommendation of Ministers as appropriate
Publication in Canada Gazette*
Section 26(1)
Possible notice or objection*
Section 26(2)
Possible Review Board*
Section 27
Section 19
Making of appropriate regulations by Cabinet on recommendation of Ministers

FIGURE 1: THE TOXIC SUBSTANCES ASSESSMENT PROCESS UNDER THE PROPOSED ACT

* Also pertains to fuels: see Section 21(a)

ASSESSMENT AND REGULATION OF TOXIC SUBSTANCES

Part 1 of the proposed Act, Toxic Substances, is basically a reenactment, with some extension, of the Environmental Contaminants Act. The Environmental Contaminants Act became law in 1974. It has proved to be ineffective as a result of several fundamental weaknesses, and because new knowledge has been developed about toxics and their behaviour, dispersion, and effects if released in the environment. This section addresses some important issues relating to the assessment and regulation of toxic substances. However, other aspects of the question are discussed throughout the report.

"Cradle to Grave"

Toxic substances behave according to the laws of nature, which are fairly well understood. Consequently, until such time as more environmentally benign substitute technologies are provided, the object should be to manage all toxics from cradle to grave competently and with sensitivity to their possible adverse effects. Some chemicals such as PCBs and persistent pesticides require very close management and should be used only where releases to the environment can be prevented, or at least tightly controlled. Ultimately the aim of the proposed Act is thus to manage, and not to ban (except in a few cases), while encouraging less dangerous alternatives. This management must be based on understanding and should include provision for the ultimate destruction or immobilization of all dangerous substances.

A major issue is the proposed treatment of existing versus new chemicals. Existing chemicals cause present problems. New chemicals may cause future problems. Environment Canada has produced an excellent, innovative, far-sighted, well intentioned statement in its "Cradle to Grave" Report (Environment Canada, 1986). The Council interprets the intention of the proposed Act as full control in the environment of both new and existing chemicals.

Ministerial Authority

One of the Council's concerns regarding the assessment and regulation of toxic substances, both new and existing, stems from Section 2 (2), Interpretation, which defines "Ministers" as meaning both the Minister of the Environment and the Minister of National Health and Welfare. This indicates to the Council that there would have to be agreement between the two Ministers before a recommendation could be made to Cabinet on listing or de-listing of chemicals (Sections 14 and 18), or on assessing and regulating the import or manufacture of the chemicals (Sections 16, 17 and 19). The Council is concerned that this could create unnecessary delays in the assessment and regulatory process, and thus create potential hazards for the public, and additional costs for industry.

In practice there would have to be consultation and cooperative effort between officials of the two departments (Environment and National Health and Welfare), and there should be no obstacle to agreement and joint action by the two Ministers. If, however, there was disagreement (for whatever reason) between officials of the two departments, it would tend to be reflected at the ministerial level, and thus delay a recommendation to Cabinet by "the Ministers".

The Council believes that any bureaucratic impasse on a matter as vital as the control of potentially toxic substances should be resolved by the Cabinet, and that "either Minister" should have the authority to make recommendations to Cabinet on the matters covered by Sections 14, 16, 17, 18 and 19.

Assessment Process

On page 36 of the Consultative Committee Report (Environment Canada, Health and Welfare Canada, 1987) the recommendation is made by the Committee "that an overall framework for the environmental and health hazard assessment of substances be developed by the federal government in consultation with stakeholders" (i.e. interested parties).

The Council concurs with this recommendation and points out that this task will be demanding and time-consuming and it should be started immediately. ***Because the decisions arising from the assessment procedure will have important commercial and financial implications, it is essential that the assessment process be documented and available for scrutiny by the public (including industry).*** Canadian leadership in the international control of toxics is an incentive to harmonize the assessment process with those to be adopted by the Organization for Economic Cooperation and Development (OECD). Thus an early evaluation of the status of the OECD process and its applicability to the Canadian scene is desirable.

If the proposed Act is enacted as written, the assessment process, which may lead to the addition of a substance on Schedule IV and to its regulation, will be complex and time-consuming (Figure 1). While such a process may be justified in the case of new substances, there is already sufficient knowledge and research to show that a relatively large number of substances have been identified as having a degree of toxicity justifying their inclusion in Schedule IV and their regulation.

Legislated List of Existing Toxic Substances - Schedule IV

The proposed Act will result in the establishment of a Schedule IV of toxic substances: "Dangerous chemicals which are subject to regulation". Under the present Environmental Contaminants Act, this list contains only five chemicals or classes of chemicals, three of which are no longer in commercial production. Other agencies and governments, including various groups within Environment Canada, have far more extensive lists of dangerous chemicals. The Transport of Dangerous Goods Act, the International Joint Commission, and some provinces also have lists. Internationally, such lists may be found in the United States Environmental Protection Agency, the State of Michigan Critical Materials Register, the OECD, and the International Register of Potentially Toxic Chemicals published by the United Nations Environment Program, to name but a few.

Considering that in twelve years only five substances have been added to the Schedule of the Environmental Contaminants Act, there is a danger that the structure of the proposed Act (which leaves most of the actual controls over toxic substances to the regulations) and the scarcity of the resources available (especially in terms of person power within the Department) could result in a large delay between the passing of the legislation and its effective implementation and enforcement. Therefore, ***the Council urges the Minister to take an immediate step toward implementing the legislation by placing on Schedule IV a number of chemicals which are "generally recognized" as toxic or dangerous. This inclusive Schedule IV list would be an integral part of the Act.*** The Council has scrutinized the various Canadian and international lists referenced above, and has prepared a tentative list for inclusion in Schedule IV (Table 1).

TABLE 1

The CEAC has compiled the following tentative list of "generally recognized as toxic" chemicals for immediate inclusion in Schedule IV.

Metals and inorganic materials containing

antimony
arsenic
beryllium
cadmium
copper
lead
mercury
selenium
silver
zinc
chromium

cyanides
asbestos

Gases (for possible inclusion)

- hydrogen sulfide
- hydrogen fluoride
- chlorine
- hydrazine
- oxides of nitrogen
- oxides of sulfur

Mono-aromatic hydrocarbons

- benzene
- toluene
- ethyl benzene
- xylenes*
- styrene

Di-aromatic hydrocarbons

- biphenyl
- naphthalene

Polycyclic aromatic hydrocarbons (PAHs)

- anthracene
- phenanthrene
- benz-anthracenes*
- pyrene
- benz-pyrenes*
- chrysene
- alkylated PAHs*

Phenolic chemicals

- phenol
- cresols*
- xylenols*

Halogenated hydrocarbons

- freons (on Schedule IV already)
- chlorinated alkanes and alkenes*
- selected chlorinated ethers*
- chlorinated benzenes*
- brominated benzenes*
- chlorinated biphenyls (on Schedule IV)
- brominated biphenyls (on Schedule IV)
- chlorinated naphthalenes*
- chlorinated terphenyls (on Schedule IV)
- mirex (on Schedule IV)

* This designation implies selection of specific chemicals among the specified group.

Halogenated phenols

- chlorinated phenols*
- chlorinated cresols*
- chlorinated xylenols*

Phthalate esters

- di butyl phthalates*
- di methyl phthalate
- di octyl phthalates* including di zethylhexyl phthalates

"Dioxins"

- dibenzo-p-dioxin
- chlorinated dibenzo-p-dioxins*

"Furans"

- dibenzo furan
- chlorinated dibenzo furans*

Aromatic amines and amides including

- amino-benzenes, toluenes*
- benzidene
- naphthyl-amines*
- chloro-amino-aromatic chemicals*

Organo-nitrogen chemicals*

- selected nitrosamines*, nitriles (e.g. acrylonitrile), azo compounds*
- nitro compounds*
- nitroso-compounds*

Phosphate esters*

Organo-sulfur chemicals*

Substances Excluded from the Act

1) Exclusion by "Pre-emptive Legislation"

Under Section 15(2)(a) certain substances of high concern are excluded from this proposed Act and therefore from inclusion in Schedule IV by "pre-emptive legislation", i.e. they are already the responsibility of another federal department. The main categories include pesticides (insecticides, herbicides, fungicides, rodenticides, etc.) under the jurisdiction of Agriculture Canada, radionuclides under the Atomic Energy Control Board (AECB), and drugs and food additives under Health and Welfare Canada. Insofar as such substances are strictly contained, they may not be of environmental concern. Certain of these substances do reach the environment, however, in quantities sufficient to merit concern, and they may have deleterious effects on the environment and human health. Therefore the Council has three recommendations that may help in both recognizing the several jurisdictions and in managing such substances in the environment.

First, ***in the name of consistency and the protection of the environment and human health, those jurisdictions responsible for such substances as have potential for release in the environment should be required by the Governor in Council to provide, at a minimum, the same content of assessment information as is required for substances listed in Schedule IV under the proposed Act. This information should be incorporated into an "Integrated List" which also includes a data base for all substances of concern imported, manufactured, or used in, or exported from Canada.*** Implicit in this recommendation is the expectation that all substances included in this Integrated List will have assessment profiles developed for them (again, not an onerous task since the essential information is already available for most, if not all) whether they are substances new to Canada or substances already in Canada. The scope of the required information base is indicated in Table 2.

The second recommendation is that the Minister of the Environment be given regulatory powers over dangerous excluded substances comparable to those on Schedule IV if and when such substances reach the environment in a manner and in such quantities as to exceed the jurisdictional powers and management abilities of other federal agencies. Prior to such time, these substances would remain the exclusive responsibility and jurisdiction of the agencies to which they are assigned by legislation.

Third, ***because the essential resources of technically trained and competent personnel and facilities that can assist with managing substances of concern in the environment are inevitably limited, all such federal resources should be pooled, or at least integrated into a cooperative network, regardless of the agency to which they are assigned.*** This pool would include resources in Environment Canada, Health and Welfare Canada, Fisheries and Oceans, Agriculture Canada, AECB, the National Research Council, the Medical Research Council, the International Joint Commission, and possibly others.

The intention here is not to redirect the already pertinent efforts of these agencies, but to provide a mechanism for immediate integration of valuable and essential information about substances on the Integrated List; to reinforce certain directions in information development and research; and to avoid wasteful duplication of effort. This network should draw in contributions from provinces, universities and the private sector as well. Management of substances of concern in the environment is a task that is too large and too important to tolerate the "several solitudes" that characterize the present situation.

2) Exclusions under Section 15(2)(d) and 15(2)(e)

The Council questions the exclusion of substances under Section 15(2)(d) and (e). Section 15(2)(d) reads:

"(d) polymers and co-polymers that differ from polymers or co-polymers named in Schedule I only with respect to their molecular weight or ratio of constituent monomers, respectively; and ..."

The Council is of the opinion that Section 15(2)(d) should not stand as written without further qualifications. The exclusion with respect to molecular weight and ratio is too broad. We suggest adding: "such that the environmental fate and effects of the substance are changed insignificantly".

The Council also has concerns with Section 15(2)(e) which reads:

"(e) substances produced when a substance undergoes a chemical reaction as a result of storage, environmental factors or the use to which the substance is put."

Although the intent of this subsection is presumably to release the manufacturer or seller (importer) of a chemical new to Canada from responsibility for changes that may be beyond his control by virtue of storage, environmental factors or the use to which a substance is put, it is vital that such potential changes, when they are known (as they often are) or can be predicted, be included in the profile of information supplied to the Ministers in connection with the notification to the Ministers under Section 15 (1). This will alert the Ministers to potential toxicity and related hazards to the environment and human health as the result of storage, release to the environment or certain uses, so that appropriate control and management procedures can be instituted prior to the first use in Canada. ***A possible addition to Subsection 15(2)(e) might be: "unless such production results in a significant increase in the potential for environmental or human health effects".***

TABLE 2: PROPOSED FORMAT FOR "IN-CANADA" LIST COMPILATION *

Note: Separate submissions should be prepared for confidential and non-confidential information. Government may request justification for confidentiality claims.

Manufacturer or Importer: Y

Date: _____

Chemical Identity	(1) Substance (CAS no. if known)	General Use	Total Quantity	Other Comments	Alta.	B.C.	Man.	N.B.	Nfld.	N.S.	Ont.	P.E.I.	Que.	Sask.	Yukon and N.W.T.
Identity		Plasti-cizer	C		P(1)						M(1) P(2)		M(1)		
Identity		Adhesive	D								P(1)		P(1)		
Identity		Solvent	B												

Legend: M = Manufactured
P = Processed (2)
() = Number of Sites under the Control of Submitter
Y = Company Name

Quantity Levels (Kg per calendar year):
A = up to 1,000
B = 1,000 - 10,000
C = 10,000 - 100,000
D = 100,000 - 1,000,000
E = greater than 1,000,000

Example: The above form indicates that Company Y manufactures a plasticizer at one site in Ontario and one site in Quebec and processes the substance at one site in Alberta and two sites in Ontario for a total Canadian quantity of 10,000 - 100,000 kg per calendar year. The company also processes an adhesive at one site in Ontario and one site in Quebec for a total Canadian quantity of 100,000 - 1,000,000 kg per calendar year; because no manufacturing is identified, it can be assumed that the product was imported. A solvent is imported but not manufactured or processed by the submitter.

Chief Executive Officer's Signature: _____

1. The nomenclature indicated on the Consolidated List of Substances.
2. The term "processed" means the preparation of a chemical substance or mixture after its manufacture for distribution in commerce either in the same or different form or physical state as it was received from the manufacturer or importer.

* Extracted from "Final Report of the Environmental Contaminants Act Amendments Consultative Committee", Minister of Environment and Minister of National Health and Welfare, Ottawa, October 1986, page 12.

3) Products of Biotechnology

The Council considered whether the Act should include substances potentially released to the environment as products, byproducts, or wastes of biotechnology industries. It was concluded that there are no reasons for excluding non-living inorganic and organic substances from Schedules I, II, III and IV. ***They should be listed and automatically evaluated in the same manner as any other substances.***

Living materials, including bacteria and viruses, that are products of biotechnology, raise questions as to whether they should be released in the environment and, if they are, of how they can be managed and controlled in the environment. Living organisms have the potential to self-replicate in a manner that is difficult or impossible to control. Products of biotechnology, like certain other substances of concern discussed in the preceding section, may be under the initial jurisdiction of federal agencies other than Environment Canada. ***The Minister of the Environment, however, should have consultative and regulatory powers pertaining to the release, management, and control of living products and byproducts of biotechnology in the environment when such substances reach the environment in a manner and in such quantities as to exceed the jurisdictional powers and management abilities of other federal agencies.***

Export of Toxic Substances

Canada accepts its shared international responsibility for the health of the global ecosystem as well as for human health. Therefore it also accepts the responsibility to supply to countries using its products the information required for informed decisions about potentially dangerous substances.

Exportable substances are listed in Schedule III, but the intent to export a substance not yet so listed raises the question of how it will be included on the Schedule. ***A possible solution is to name all substances on both Schedules III and IV as requiring notice of proposed export.*** This assumes a conscientious and continuous updating of Schedule IV.

In order that a country importing dangerous chemicals from Canada be fully aware, and that Canada in turn be satisfied of the country's awareness, ***both notice to the authority in the country of destination and a reply to Canada accepting shipment (informed consent) should be specified in the proposed Act.***

With respect to the export of dangerous substances, there seems to be little reason for calling on the Minister to decide, at his discretion, whether or not he should name in the Canada Gazette the substance, the exporter, and the country of destination. ***The Council recommends the positive nondiscretionary action; i.e. the gazetting of all toxic exports.***

Publication through other channels in addition to the Canada Gazette should also be considered.

Management of Toxic Substances

1) Regulation

The proposed Act as it stands is largely an enabling document. Most of the "meat" and "teeth" will be in the standards expressed in the regulations. The primary section that will ensure cradle to grave management is Section 19 which empowers the Governor in Council, on the recommendation of the Ministers, to make regulations with respect to substances named in Schedule IV. The Council has some concerns that the suggested areas for regulation [Section 19 (a) through 19 (o)] pertain mainly to the "cradle" aspects. ***Consideration should be given to strengthening the "late life" and "grave" aspects of the regulatory powers.*** Figure 2, illustrating an example of the movement of a Substance of Concern through the environment, can be used for reference when considering the adequacy of the regulatory aspects covered in Section 19 of the proposed Act. It should be noted that the proposed Act's main concern will lie with those fractions discharged to the environment, not with those permanently contained or adequately destroyed.

2) Resources and Science

It must be appreciated that implementation of the proposed Act will require allocation of considerable resources for both management and scientific activities.

The Commercial Chemicals Branch of Environment Canada will require expansion to ensure that the schedules are compiled within a reasonable length of time. Requirements for assessment and response to new chemical notifications will be ongoing, as will activities relating to the addition or deletion of chemicals from Schedules. The chemical assessment process will be a particularly demanding task not only in staff time but in the type of highly qualified person who will be required to make judgements on chemical release, exposure and toxic effects.

The Council notes that the United States Environmental Protection Agency's New Chemicals Program involves some 200-300 persons. Unfortunately, confidentiality considerations will frequently prevent information gained in the United States from becoming available to Environment Canada. In any event, the responsibility for protecting Canada's environment is Canadian, and there must be a strong national commitment to conduct independent assessments.

We point out the following implications:

(i) The proposed Act will require individuals with a range and breadth of qualifications and experience ranging from knowledge of industrial chemistry to knowledge of environmental dispersion, exposure analysis, and toxicology. Such people are in short supply in Canada. ***Steps should be taken to increase the "pool" of scientific personnel within Environment Canada that can be called upon to participate in this process.***

(ii) The science of chemical exposure assessment and toxicity evaluation is still developing. ***It is essential that Environment Canada be at the forefront of this process by nourishing scientific efforts in this area, both within Environment Canada and through extramural funding.***

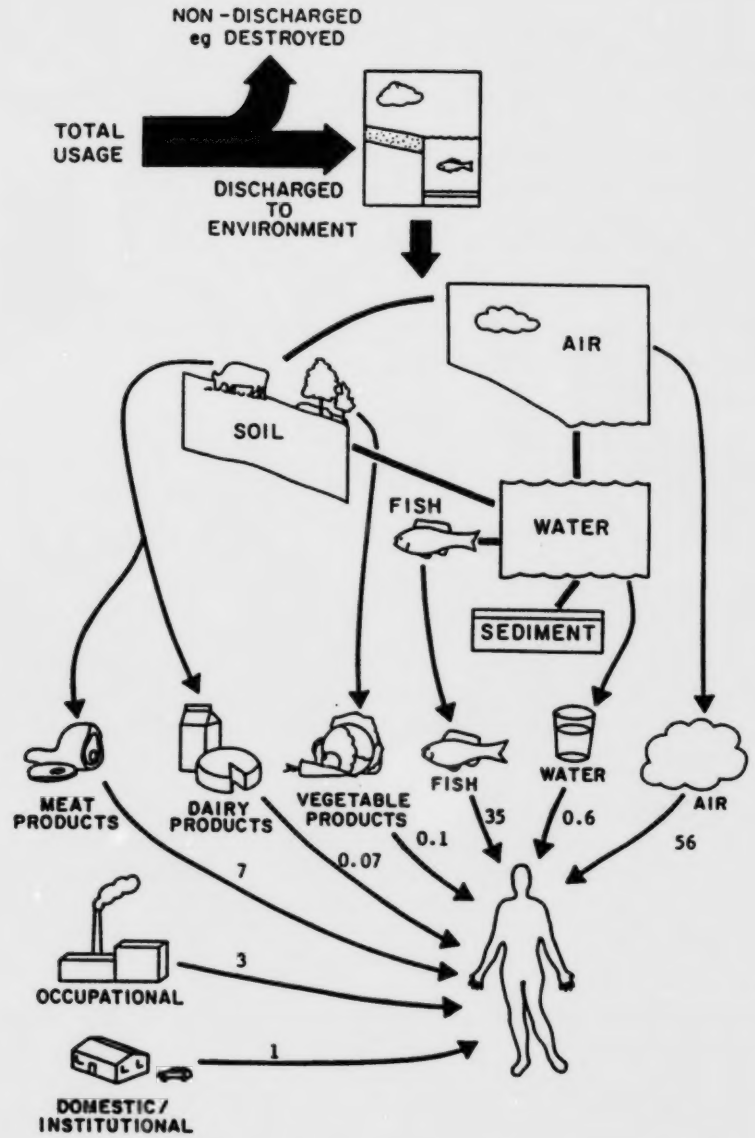


FIGURE 2: ENVIRONMENTAL EXPOSURE ASSESSMENT

This figure is an attempt to depict the assessment process as discussed on page 36 of the "Final Report for the Environmental Contaminants Act Amendments Consultative Committee". The aim is to:

(i) estimate amounts entering the environment;
(ii) estimate concentrations of chemical in air, water, soil, sediment, fish, etc. and the duration of these concentrations i.e. "exposure";
(iii) estimate the effects which these concentrations may have on the ecosystem; and
(iv) identify and quantify the routes to human exposure.

This is a scientifically demanding task which can be helped by the use of various computer models.

(iii) ***Allocation of sufficient person years to the administration of the proposed Act will be essential.***

(iv) ***This allocation should <u>not</u> result in the attrition of other Environment Canada programs such as research in the Canadian Wildlife Service, Atmospheric Environment Service or Great Lakes programs.***

It would be intolerable if Environment Canada could not administer the Act because of its inability to provide the required quantity and quality of intellectual resources. Environment Canada staff must be at least as knowledgeable and experienced in the science of "environmental toxicology" as those in industry who will introduce new chemicals. We call attention again to the concerns that the Council has repeatedly expressed in recent years about the continuing erosion of the scientific programs and scientific staff within Environment Canada.

3) Timing

The Council has serious concerns about the length of time that could be involved in making this proposed Act operational. The following are recommendations that may help expedite this process:

(a) ***Include the expanded Schedule IV, given above, in the final text of the proposed Act delivered to Parliament.***

(b) ***Expand the resources of scientifically trained environmental chemists and ecotoxicologists in Environment Canada through new-hires. This should include senior, internationally recognized professionals as well as more junior staff.***

(c) ***Marshall relevant resources from within government, not just Environment Canada, to take part in a cooperative and integrated effort in the interest of the Canadian environment and the people of Canada.*** The ordinary process of cross-department consultation can be cumbersome, time-consuming, and may offer opportunities to thwart the decision-making process. It should be avoided.

(d) ***Arrange to hire temporary personnel from among qualified members of the private sector.***

(e) ***Access existing and relevant information resources and experience world-wide.***

(f) ***Contract with national and international agencies such as the Environmental Protection Agency in the United States and the OECD to assist in this effort.***

Once the system is up and running, the effort to maintain it will be demanding and will require adequate resources, but the greatest need for competent resources will be up-front, to make the new Act operational in the shortest possible time.

BOARD OF REVIEW PROCESS

The Board of Review procedure is a major component of the review process established by the proposed Act. The Council has therefore examined in detail its proposed mechanisms. The Council is of the opinion that this potentially beneficial process should be used with the greatest care by the Ministers. Several recommendations to improve its use are offered.

Principles

According to the proposed Act, a Board of Review is established at the discretion of the Ministers, in response to a notice of objection filed by any person. The notice of objection relates:

- either to a proposed order to add or delete the name of a substance to or from Schedules I, II, III or IV, or

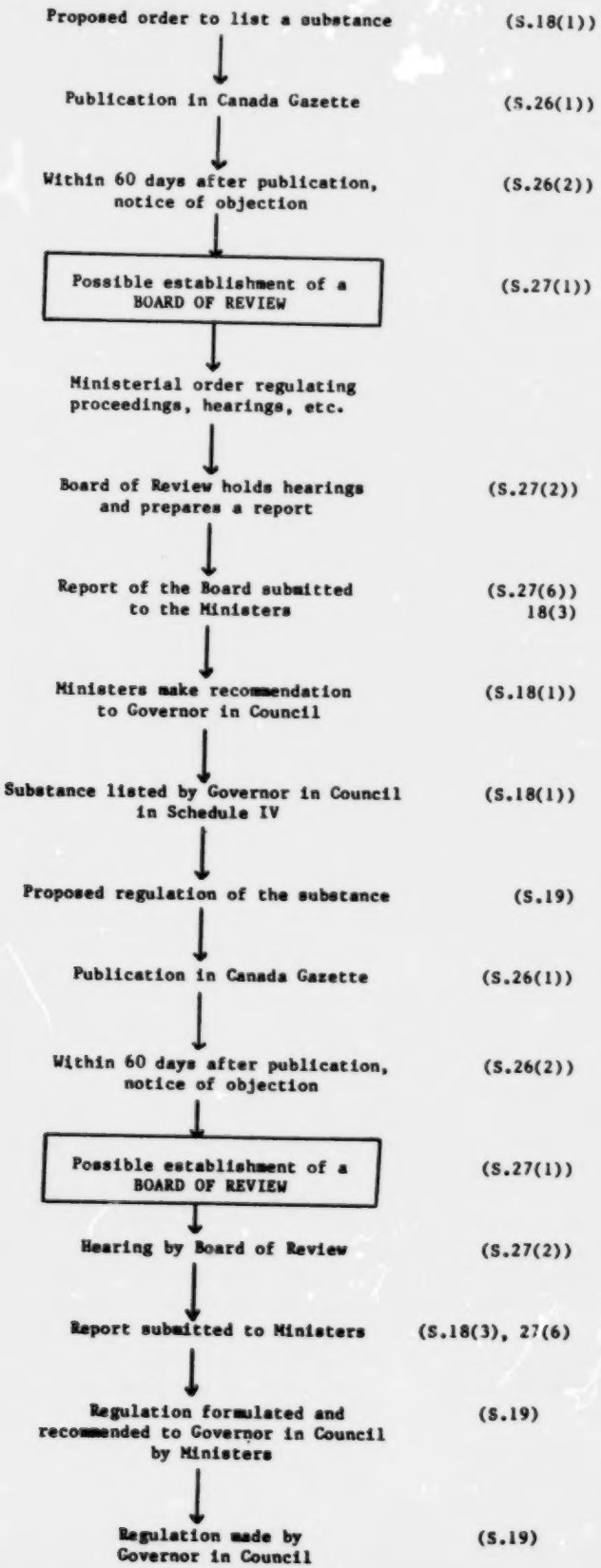
- to a proposed regulation with respect to a substance named in Schedule IV, or with respect to fuels.

These provisions are an improvement over those of the Environmental Contaminants Act [Section 5 (3), Section 7 (4)] in that they allow "any person" rather than "an interested person" to file the notice of objection, and they also allow objections to proposed deletion of substances from a Schedule as well as to proposed changes to regulations governing scheduled substances. These changes reflect some of the recommendations of the Environmental Contaminants Act Amendments Consultative Committee's final report. However, they fail to take into account other suggestions of that Committee, in particular that the decision not to list or not to regulate a substance should also be subject to the Board of Review process.

The Council recognizes the fact that the review process as proposed in the Act, if applied by the Minister, could lead to a very lengthy and complicated decision-making process. Figure 3 illustrates the numerous steps which would have to be followed in order to achieve the regulation of the use of a given substance. Furthermore, it has to be kept in mind that the process in Figure 3 is the end result of the much longer process of assessment shown in Figure 1.

As the chart shows, the opportunity to ask for review is given on two occasions during the decision-making process relating to the control of toxic substances. Note here, concerning the second review, that the submission of regulations to a Board of Review process is unusual. The Council is concerned that the two-review process could be used tactically to delay the regulation of toxic substances. Therefore, the Council agrees that the establishment of a Board of Review should be left to the discretion of either of the Ministers, and urges the Ministers to exercise the greatest care in the use of this review procedure.

FIGURE 3: BOARD OF REVIEW PROCESS IN THE PROPOSED ACT


Proposed order to list a substance (S.18(1))
Publication in Canada Gazette (S.26(1))
Within 60 days after publication, notice of objection (S.26(2))
Possible establishment of a BOARD OF REVIEW (S.27(1))
Ministerial order regulating proceedings, hearings, etc.
Board of Review holds hearings and prepares a report (S.27(2))
Report of the Board submitted to the Ministers (S.27(6)) 18(3)
Ministers make recommendation to Governor in Council (S.18(1))
Substance listed by Governor in Council in Schedule IV (S.18(1))
Proposed regulation of the substance (S.19)
Publication in Canada Gazette (S.26(1))
Within 60 days after publication, notice of objection (S.26(2))
Possible establishment of a BOARD OF REVIEW (S.27(1))
Hearing by Board of Review (S.27(2))
Report submitted to Ministers (S.18(3), 27(6)
Regulation formulated and recommended to Governor in Council by Ministers (S.19)
Regulation made by Governor in Council (S.19)

On the other hand, Council is concerned that there is a major gap in the process in the event that the Minister declines to take any action following Departmental review and assessment of the toxicity of a substance. There is no opportunity for further review of this negative "decision". Similarly there is no opportunity to question ministerial decisions to not even commence review and assessment of a substance. In both cases, scientific and technical issues are involved; however, the decision is by no means limited to technical factors. There will inevitably be knowledge gaps, consequently judgement must be exercised that involves risk-benefit considerations as well as broader issues of social and economic policy. These are all factors on which public involvement is not only appropriate, but essential if decisions are to adequately reflect public choices and be broadly acceptable in the community.

Council, therefore, recommends that Section 18 be amended to give to any person the right to petition either of the Ministers to order inclusion of a substance in Schedule IV as being toxic. Where such a petition is made, the Minister should have a specified limited period of time to decide whether he will propose that the name of the substance be scheduled. If the Minister decides not to make such a proposal, he should be required to inform the petitioner of this decision within a specified limited period of time, giving his reasons. Section 26 should be amended to give the petitioner the right to file a notice of objection against such refusal within 60 days following the receipt of the notice of refusal from the Minister. Section 27 would then apply, permitting the establishment of a Board of Review.

Similarly, Section 26 should require that any decision by the Minister, following departmental review and assessment, not to add that substance to Schedule IV, be published in the Canada Gazette, and be subject to the right to file notices of objection under Section 26(2). Such an objection would then require a ministerial decision under Section 27(1) as to whether or not to establish a Board of Review. This latter discretion may appropriately be preserved, but if it is exercised to refuse establishment of a Board of Review, it should be based upon substantial evidence that the substance is not in fact toxic.

A parallel opportunity should be given to those who may be disadvantaged by the immediate inclusion of certain chemicals on the Schedule IV list proposed by the Council. (See Table 1). They can under the Act present evidence to either Minister that inclusion of a particular chemical is not justified. If the Minister agrees, the Minister may propose under Section 18(2) that the substance be deleted from Schedule IV. At this point, publication of the proposal is required, and objections may be filed under Section 26 that may lead either Minister to establish a Board of Review for full public consideration and review of the environmental toxicity of the substance in question.

In view of the above considerations and the concerns expressed about cumbersomeness and delays, and in order to alleviate some of the problems created by the possible "over-use" of the review process, the Council offers the following recommendations:

1) ***the list proposed by Council for inclusion in Schedule IV (Table 1), should be part of the proposed Act;***

2) ***the Ministers should consider limiting the use of the Board of Review process to cases where inclusion of a substance on Schedule IV is refused. On the other hand, in instances where inclusions are contested, it would be more appropriate to allow for a review process to take place at the regulation-making stage;*** and

3) ***Time limitations should be built into the review process; e.g. the Board should make its recommendations within a specified period of time.***

Specific Recommendations Relating to Procedures

- ***Members of the Boards should be drawn from industry, the general public (including environmental and consumer groups), labour, government (both federal and provincial) and informed scientists. Provisions should be made for payment of expenses and an adequate per diem allowance for the members.***

- ***In order to ensure a balance in the resources available to the participants, intervenor funding should be available to the public. (See also Public Involvement).***

- ***Where broad public interest is present, procedures should include both hearings with witnesses under oath and cross-examination and meetings where public views can be heard in a less formal environment.***

- ***The Board should produce and publish the reasons for its decisions, including a statement of the material facts on which decisions are based. (See also Public Involvement).***

- ***In order to eliminate the perpetual starting-anew learning process, consideration should be given to appointing a permanent Board with a continually renewed membership (i.e., three-year terms, one third of the membership appointed each year).***

Concluding Remarks

It is acknowledged that the Board of Review procedure has some drawbacks. It is a lengthy and costly process, and it puts the public in the position of criticizing a draft order or regulation, rather than making a contribution at the drafting stage. For these reasons, ***forms of mediation and decision-making (e.g. "negotiated rule-making" involving a range of interested parties) should be recognized in the Act as alternatives to the Board of Review mechanisms.***

PUBLIC INVOLVEMENT

In Canada, public participation with governments and industry in policy matters is a growing practice. Environment Canada has also had, for some time, a public participation policy. More recently, the Department has subscribed to the development of a set of principles designed to facilitate a meaningful and effective public consultation process. These principles have been to some degree forfeited in the Department's approach to the review of the proposed Environmental Protection Act.

The increased interest in public participation places heavy demands in terms of time and financial resources on all participants. These demands are particularly onerous on public interest groups, local governments and small entrepreneurial interests.

The Council has reviewed different factors related to the question of public involvement, and proposes, in addition to recommendations offered in other parts of this review, a number of recommendations which it considers to be of primary importance. Included are a discussion of the following items: Standing to Sue, Written Reasons for Decision, Disclosure and Confidentiality, Public Funding, Right of Appeal, and Notice and Written Comment Participation. ***The Council urges Environment Canada to support and fully commit itself to the principles set out in this Section in order to ensure full participation, in the broadest sense, of the public. The Council also calls for a re-dedication by the Department to the principles of good consultative practice as stated in the report on a consultation process which was developed by the Niagara Institute in cooperation with Environment Canada.***

Standing to Sue - An "Environmental Bill of Rights"

Formal public participation rights should be widened by giving "standing" to persons or groups to take legal action with a view to enforcing requirements under the Act. This serves several purposes. It provides the flexibility necessary to ensure that enforcement action may be taken directly by members of the public in circumstances where the Department may, for a variety of reasons, be unable to act. Because legal action is expensive and time consuming, this right may rarely be exercised. It is however an essential back-up for formal departmental enforcement, and it underlines to members of the public that residual enforcement rights always exist, and that the government wishes that this should clearly be the case.

This recommendation to widen legal standing for members of the public would provide a form of "Environmental Bill of Rights" that goes beyond the policy statements in the Act's Declaration and Preamble. It would, however, be a carefully tailored Bill of Rights that avoids constitutional jurisdiction problems by limiting enforceable environmental rights to those under the Act. The Act in turn has been drafted to come within exclusive federal legislative powers in relation to Criminal Law, Peace, Order and Good Government, Regulation of Trade and Commerce, Sea Coast and Inland Fisheries, and federal works and undertakings that fall within a variety of more specific federal powers.

The Council, therefore, recommends that Section 70 of the Act be amended to provide that any person or group, in addition to the Minister, be empowered to initiate legal action to enjoin environmentally damaging actions within the legislative jurisdiction of Parliament. This includes an amendment to specify that what may be enjoined is actions that are or are likely to result in contravention not only of the Act, but also of any regulations and of any orders made under either the Act or the Regulations. The provision in Section 70 that such actions constitute or be directed toward commission of an offence under the Act, unduly restricts the scope of the Section and should be removed. For the same reason, the requirement of Section 70 that injunctive relief should only be available if the illegal action cannot be adequately prevented or remedied under any other Section of the Act should be removed from the Section. This latter limitation would make it nearly impossible for litigants, especially persons or groups, to successfully use Section 70 if the Department refuses or neglects to act.

Written Reasons for Decision

Formal public participation by way of Board of Review proceedings, including the right to petition recommended previously,(1) will only be effective if members of the public have the information necessary to decide whether or not to exercise these rights in particular circumstances. Without an understanding of the grounds upon which decisions, such as scheduling decisions under Section 18, are made, it will be impossible to determine whether or not further information or alternative data interpretation may lead a Board of Review to recommend a different course of action. Full, fair and accurate information is an essential precondition for any effective public participation. In addition, providing reasons for decisions forces consideration and articulation of the rationale behind decisions, and contributes to public confidence in the decision process.

The Council recommends that Section 18 be amended to require written reasons for Ministerial decisions to propose or decline to propose that substances either be added to or deleted from Schedule IV. Similarly, Ministerial decisions in response to a citizens' petition whether or not to propose addition of a substance to Schedule IV, should be made in writing with reasons fully stated. Decisions whether or not to establish Boards of Review under Section 27 should also be stated in writing. Again, determinations that Boards of Review are not warranted will be accepted only if the reasons are understood and are rational and convincing in the context of the particular facts and circumstances. It is further recommended that written reasons should be provided for decisions related to orders under Section 16(2), emergency orders under Section 18(4), and reporting and remedial orders under Sections 22 and 24.

In all cases, reasons for decisions should be available to the public forthwith following the decision. In addition, it is essential that written reasons be more than formal "because we think so" rationales for decisions. Therefore it is recommended that written reasons for decisions should include both a statement of the material facts on which decisions are based and a clear statement of the reasons.

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(1) See Board of Review Process

Section 27 requires Boards of Review to prepare reports to the Ministers of their recommendation, including the evidence before the Board. However Section 27(7) authorizes the Ministers to avoid disclosure of all or parts of Board reports where a Board states in writing that the public interest would be better served by withholding publication of all or parts of its report. ***Council believes that this power to withhold disclosure of Board of Review reports is not justified and should be removed.***

This power is potentially destructive of the openness that is essential for public participation, and that ultimately is essential for maintaining public confidence in the Board of Review procedure. ***If concerns about disclosure of valuable commercial information are at the root of reluctance to disclose parts of particular reports, this problem is best handled by developing a procedure for determining disputes about confidentiality of particular information before Boards of Review.*** If information is relied upon by a Board of Review in reaching its conclusions, the open, public nature of the process requires that it remain in the report. Board of Review reports are, in form, recommendations to the Minister; but they are also the culmination of open, public Board of Review processes. The credibility of this process requires that reports be freely and fully available.

Disclosure and Confidentiality

Section 10 prohibits disclosure of information given in confidence concerning potentially toxic substances, including trade secrets and valuable financial, commercial or technical information. Council agrees that some protection of this type is justified. However, excessively broad definition of this class of information will have a serious dampening effect on public participation rights. A balance must be struck, and a key factor is provision for credible independent review in case of dispute.

Council was unable to refine its recommendation to identify a particular mechanism for resolving disputes concerning confidentiality of information related to substances under review. In its Report, the Environmental Contaminants Act Amendments Consultative Committee recommended an arbitration procedure involving the various "stakeholders". It may be, however, that disputes of this kind are likely to involve "disclosure or not" issues, with little of the middle ground that is necessary for successful arbitration. If so, provision for fast and binding determinations by an impartial body may be more appropriate. The decision maker (which may appropriately be a court), and its procedure should be defined with a view to avoiding extensive and protracted legal proceedings.

Therefore, ***the Council recommends that an appropriate mechanism for resolving disputes concerning confidentiality of relevant information be included in the Act. The basic premise should be that information related to the potential toxicity of substances will be available to the public. This dispute-resolution process must be designed to cover all of the classes of information specified in Section 10(1). It should also include additional***

information requested by one party from either another private party or from a government department or agency in Board of Review proceedings under Section 27, or as a preliminary to initiating a petition to the Minister as recommended above. (1)

Public Funding

Funding of public participants is essential to the successful use of any public participation rights that may be included in the Act. Without funding, members of the public are not in a position to participate on an equal basis with other interests. Nor are they able to make their best possible contribution either in providing direct information or in testing information and views submitted by others. In particular, it is difficult to see how the members of the public could effectively participate in the Board of Review process without some form of funding.

Council's recommendation is that the Act include specific provision for public funding. This power must be flexible. However, at a minimum it must include power for the Minister:

a) ***to provide participants with direct funding from public funds;***

b) ***to order any party in a proceeding under the Act to pay the participation cost of any other party in the proceedings;***

c) ***to establish criteria for funding and costs eligibility;***

d) ***to delegate to an independent person or persons the powers to develop funding or costs criteria, and to make funding or costs decisions in particular proceedings under the Act;*** and

e) ***to authorize an advance of funds to any public participant, subject to appropriate terms and conditions.***

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(1) See Board of Review Process

Right of Appeal

Council considers that the Board of Review procedure (as modified by our previous recommendations on a procedure for petitioning the Minister, and by the above recommendations on reasons for decisions, confidential information and public funding) provides a full and fair appeal procedure.

Additional judicial review rights to ensure that decisions are made fairly and according to law are available under the Federal Court Act and common law judicial review principles. Council believes that these latter rights make it unnecessary to include "review-type" appeal rights, related to questions of law or jurisdiction, in the Act.

Notice and Written Comment Participation

Council notes the provision in Section 36(3) for publication of proposed specific air contaminant emission standards in the Canada Gazette and the right of "affected persons" in Canada to have a "reasonable opportunity to make representations to the Minister". *Council believes that this provision should be used as a model for rights to notice and opportunity for comment when other regulations under the Act are proposed. This is consistent with the Department of the Environment's Public Participation Policy.*

Included would be the regulation powers under Sections 17, 19, 21, 25(5), 28.1(2), 31, 38, 66(5) and the regulation-making power recommended under the amended Section 30.[1] *These public rights should also be extended to proposals to prescribe national air contaminant emission standards under Section 34, and proposals to establish national contaminant emission guidelines under Section 35, or national environmental quality objectives, guidelines or codes of practice under Section 4. Notice and comment rights should also apply to proposals to make orders establishing procedural rules for Boards of Review under Section 27(8).*

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(1) See Standards and Guidelines

AIR POLLUTION

Unlike its predecessor statute, the Clean Air Act, the proposed Act considers the subject of air pollution primarily in the context of international air pollution (Part IV of the Act). This raised questions in the Council's collective mind as to:

(1) whether domestic air pollution is adequately covered, and

(2) whether certain of the restrictive clauses inserted in Part IV are warranted.

Domestic Air Pollution

It is arguable whether or not domestic air pollution is covered within the context and intent of the proposed Act, because nowhere is it mentioned specifically that the atmosphere is one of the two primary media of transport of pollutants in the environment. Sections 34 and 36 of the proposed Act only refer to air pollutants "likely to affect the health or safety of the people of a country other than Canada ... or that results or may result in a violation by Canada of any international treaty relating to the reduction or elimination of air pollution to which Canada is a party" (Preamble (f) of the Proposed Act). Thus one must examine the more general provisions of the Act to confirm that air pollutants are adequately covered. For example:

- air quality objectives can be included in the establishment of "environmental quality objectives" (Section 4);

- Section 35 authorizes establishment of national emission guidelines for air contaminants;

- "release" (Section 2, Interpretation) includes the terms "discharge, spray, deposit, spill, leak, seep, emit, and exhaust" which all relate directly or indirectly to the modes of entry of air pollutants into the environment;

- the wide definition of "substance" (Section 2, Interpretation) appears to encompass air pollutants. However, the exclusion clause (d) "any mixture that is a combination of substances and does not itself produce a new substance" that pertains to Section 14 (a) and (b) (Schedules I and II) and Sections 15-17 (Mandatory Reporting, Assessment, and Regulation of Substances New to Canada) may include air pollutants; and

- the general regulation-making power under Section 31 may be wide enough to authorize the making of detailed regulations to abate or control air contamination. Indeed, it is even possible that comprehensive regulations respecting water and land contaminants may be promulgated

under the latter section. However, the regulatory power under section 31 is restricted to federal works, undertakings, lands, or waters.

Council believes that there is at least enough doubt in this matter to justify expansion and clarification of the Act, strengthening powers to make regulations establishing emission standards for the abatement and control of domestic air pollution that is likely to constitute a significant danger to the environment and to the health of Canadians. Similarly, clearer and more precise powers to establish standards for domestic water and land contaminant discharge should be added to the Act. These additions appear to be necessary in order to avoid the risk that restrictive statutory interpretation may cut these important environmental protective powers from the Act.

There is another argument to support this recommendation. It is not particularly clear that existing regulations under Section 7 (1) (a) of the Clean Air Act, respecting national emission standards to regulate the emission of air contaminants which "constitute a significant danger to the health of persons", are continued under the proposed Act. It is possible that the Proposed Act, with its requirements for assessing and scheduling contaminants prior to regulation, is not clear and specific enough to provide continued authority for the existing regulations. Consequently, domestic air pollution may no longer be regulated at the federal level once the proposed Act in enacted.

International Air Pollution

Part IV deals with international air pollution, and is introduced by a useful set of definitions pertaining to pollutants released into the atmosphere. These definitions apply equally well to domestic air pollution.

The proposed Act contains an approach to international air pollution control which, in the Council's view, is unfortunate. The implication is that Canada will control its sources of air pollution in respect to possible effects on "... the health or safety of the people of a country other than Canada where that country confers the same benefit on Canada, or that results or may result in a violation by Canada of any international treaty relating to the reduction or elimination of air pollution to which Canada is a party" (Preamble (f) of the proposed Act). This concept is elaborated, specifically in Sections 34 and 36, and presumably is implicit in the remaining sections of Part IV.

Although the "tit for tat" concept may have been introduced as a tool for international negotiations, the Council finds it unfortunate that responsible Canadian environmental behaviour is made conditional on such a basis. It is the Council's belief that Canadian emission standards should be set to protect the environments and people of Canada and any other potentially affected country in a safe and responsible manner in all circumstances. They should not be applied only in response to equal benefits conferred by another country, or to potential treaty violations. ***The Council believes in environmental leadership by Canada, not response only to treaties by which we are bound. Consequently it is recommended that Section 37 be deleted from the proposed Act and that the Preamble be amended (4th Whereas (f)).***

IMPLEMENTATION AND ENFORCEMENT

Several aspects of "implementation" have been reviewed in earlier sections of this report, for example, the need for adequate staff and budget, and the proposal to include in the Act a preliminary list of toxic substances under Schedule IV. It should be apparent that implementation cannot be considered separate and apart from the terms of the proposed Act itself. Any legislation which cannot be effectively implemented is legislation that is poorly conceived, planned or drafted.

This section is therefore not a complete examination of all aspects of implementation of the Act. It addresses particular points which have not already been covered, including: Offence Provisions, Federal Works and Undertakings, Agreements with Provinces, Emergency Action on Toxic Spills and the proposed Enforcement and Compliance Policy.

Offence Provisions

The draft Section 54 proposes "a fine or...imprisonment for a term not exceeding five years or...both" as the penalty for any person who causes "serious damage to the environment". While the Council applauds the intent of this Section and supports the severity of the proposed penalty, it has two reservations: first, "damage to the environment" is restricted to actions which are contraventions of this particular Act; second, it may be more appropriate and more effective to include this offence in the Criminal Code.

Because Section 54 only refers to contraventions to the Act, the proposed penalties would not even apply to environmentally damaging actions that involve contraventions of other federal legislation. This severely limits its purpose of making all major crimes against the environment serious criminal offences. ***Consequently, the Council recommends that the words "in contravention of this Act" be deleted from Section 54.***

The Council is not opposed to inclusion of this Section, as modified above, in the proposed Environmental Protection Act, but ***urges that negotiations be started toward having an equivalent but wider provision incorporated in the Criminal Code.*** In this respect, the Council is in agreement with the Law Reform Commission and the recommendations in its Working Paper: Crimes Against the Environment (Law Reform Commission 1985). A provision in the Criminal Code could be framed in terms of "damaging or endangering the environment" and without the limitation that contravention of a particular act is required.

A related problem concerning the group of offences is the potential for "strict liability" interpretation by the courts that would tend to cut down the deterrent effect of the penalty provisions. Lack of the requisite intention or reckless behaviour, or the fact that an accused took all reasonable care (due

diligence), may be appropriate as defences to the major indictable offence under Section 54. Council is concerned, however, that the effect of Section 60, and generally the judicial approach to characterization of environmental offences as strict liability offences for which due diligence is a defence, may water down the other offence provisions to an unreasonable extent.

The Council does not wish to advocate criminal penalties that are arbitrary or unusually harsh. However, it is of the opinion that it is feasible to redraft the key offence provision, Section 52, to limit the defence of due diligence. ***It should be specified that the offences under clauses (b) to (h) inclusive are absolute liability offences for which evidence of due diligence is not a defence.*** A provision for absolute liability offences may be particularly relevant to those charges laid against corporations.

This approach is justified on the basis that these offences are the cornerstone enforcement provisions for the process of identification, toxicity assessment, and regulation of toxic substances that is the central feature of the Act. The potential for serious and irreversible damage to the environment and to human health if toxic substances are not quickly and effectively brought under control as a result of inability to apply and enforce sanctions, is an important factor. The fact that corporations are artificial entities, capable of establishing organization and command structures, makes it difficult to resist the argument that they exercised all reasonable care in particular circumstances. This may make absolute liability offences essential to achieve effective corporate deterrence.

The spectre of infringement of the Canadian Charter of Rights and Freedoms may be raised against absolute liability offences. The above recommendations are consistent, however, with recent Supreme Court of Canada Comments in Reference re Section 94(2) of the British Columbia Motor Vehicle Act (Supreme Court of Canada, 1985), that absolute liability offences do not <u>per se</u> offend the Charter, and that justification for such absolute liability offences is likely to be available in the case of environmental offences, and particularly to the extent that these environmental offences apply to corporations as opposed to natural persons.

Federal Works and Undertakings

Part III of the proposed Act provides the Minister of the Environment with some limited powers, or more properly, influence, in relation to activities of other departments and agencies of the federal government that may affect the environment. According to Sections 30 and 31, the Minister may establish guidelines and/or regulations for "federal works or undertakings" which are under the direction of other ministers, but only with the approval of Cabinet. It has been recommended previously that the Section 30 guideline power be amended to give to the Minister the power to make binding regulations in relation to federal departments and agencies.(1) Under Section 32, the

(1) See Standards and Guidelines

Minister is authorized to obtain a wide range of information on proposed works and undertakings to determine if they will have any adverse affects on the environment, and to determine measures which would mitigate the effects.

The Minister has no veto power or other direct authority over activities of other departments which may harm the environment, just the opportunity to exercise influence.

It appears that the Minister of the Environment will be expected to serve as an "Environmental Auditor General" but without the influence exerted by the Auditor General's Report. ***It is the Council's view that, as a minimum, Section 32 of the Act should be amended to include a requirement for publication of the assessments of the environmental effects of the "works and undertakings" of other departments and agencies.*** The federal government has taken a commendable initiative in reporting to Canadians on the general condition and trends in environmental quality with its recent State of the Environment Report. It has an obligation, however, to also report to Canadians on its own performance as a steward of the environment in which they live, and this should include detailed accounting on its own performance as indicated above.

Agreements with Provinces

Section 41 of the proposed Act provides the Minister, subject to approval of the Governor in Council, with the authority to enter into agreements with one or more provincial governments. Such agreements have been signed with a number of provinces in the past. Reference is made at this point to the review undertaken by the Council in 1984-85 on enforcement practices, which is attached as Annex 4 to this report, and in which federal-provincial agreements are discussed.

The Council offers the following recommendations in respect to agreements with the provinces:

1) ***In order for the agreements to be legally binding on all concerned parties, they must be formal written agreements in which obligations are precisely set out, and not simply informal "understandings".***

2) ***Some mechanism for public participation should be provided during negotiation of the agreements.***

3) ***An audit procedure should be developed in order to ensure that the parties to the agreement adhere to their obligations.***

4) ***The agreements should be made public documents, in order to ensure access to them by the public.***

Emergency Action on Toxic Spills

In the draft Act, Section 22 provides for emergency measures to be taken to mitigate the hazards from releases of toxic substances into the environment. The Council agrees with the general thrust of this Section, but believes that it requires two modifications. Both are intended to eliminate impediments to fast and effective clean-up action.

Section 22 (2) provides authority for Cabinet to issue a clean-up or stop order to the owners or those in charge of a toxic substance that has been released or is likely to be released into the environment. In most emergencies, a delay of even a few hours may be critical. There appears to be no reason to add into the process the additional time required to arrange for a "stop order" or "clean-up order" by Cabinet. To require Cabinet decision in these circumstances is likely to reduce the speed and flexibility of the enforcement process and ultimately defeat the purpose of this emergency power. ***Council therefore recommends that the authority to make such orders should rest with the Minister of the Environment.***

Of even greater importance is the need to eliminate any obstacles which may hinder responsible voluntary action which could be taken to stop or clean-up a spill. Voluntary action can be taken within minutes or hours, and damage to the environment minimized. The main potential legal impediments to corporations taking action of their own volition is the matter of liability.

There have been circumstances where clean-up of a spill was delayed due to the concern of those involved that initiating clean-up action would increase the likelihood of their being found liable for damage resulting from the spill. Section 22 (5) of the draft Act provides a measure of liability protection for those engaged in stopping or cleaning-up a spill under orders, but provides no liability protection for those operating on a voluntary basis.

The Council believes that, in stopping and cleaning up spills, as in every aspect of environmental stewardship, strong encouragement should be given to those taking action on their own initiative. Section 22 should therefore be amended in two ways. First, it should ensure that any action taken on a voluntary basis to stop or clean-up a release of toxic substances does not prejudice any subsequent decision on liability. This should not have the effect of limiting ordinary legal liability for damage caused by the spill. It should, however, clarify that clean-up action should not be interpreted by the courts as contributing to prove liability.

Second, it should be made clear that anyone who takes clean-up actions, whether voluntary or under a Section 22 order, should not be subject to liability as a result of clean-up activities. This would have the effect of extending to private persons the same protection that is given to inspectors or contractors under Section 22 (5), where they take clean-up measures in circumstances where the person responsible for the release fails to comply with the clean-up order.

In addition to the two specific revisions mentioned above, ***the Council recommends a general revision of Section 22 to reflect the emphasis placed on responsible action by the corporations concerned.*** While legal considerations may not be affected by the sequence or manner of presentation of particular clauses, added prominence given to clauses which relate to voluntary action would tend to communicate to readers of the Act the importance attached to responsible action taken by individuals or corporations on their own initiative.

Enforcement and Compliance Policy

It is the Council's understanding that a proposed policy statement is to accompany the Environmental Protection Act when the Act has been revised following the public consultations, and the final Bill is tabled in Parliament for first reading later in 1987. At the time of the Council's Workshop, only an outline of the Policy, rather than a full draft, was available for review. This report therefore can only present a few preliminary comments.

This is a subject of particular interest to the Council. Review of enforcement practices was undertaken by Council at the request of the Minister in 1984. It was completed and submitted in June, 1985 (Annex 4). In that review the Council noted that it had been concerned for several years with what it perceived to be "an inadequate level of enforcement of statutes and regulations which were designed to protect the quality of the environment." It was also noted in that statement that "there are a variety of ways to implement environmental standards, and enforcement of regulations is only one of the methods which can and should be used...", but that the Council had focussed on the enforcement aspect at the Minister's request. The Council's views on past enforcement experience are contained in the review mentioned above.

A few preliminary observations are offered at this time on the basis of the outline of the proposed Policy.

Of the eight principles stated on page 3 of the Outline, the first appears to be the most important:

> "Enforcement authorities will apply the Environmental Protection Act in a manner that is <u>fair, predictable and consistent</u>" (emphasis added).

In the Council's view, this should be <u>the</u> guiding principle, and should take precedence over the others. We do not object to "an emphasis on prevention" or to "encouraging self-regulation, auditing and reporting", but care will have to be taken that these factors do not, in practice, cause contravention of the first principle, and that they do not, in practice, become excuses for not enforcing the Act. We recognize the need to use a variety of techniques in implementing the Act, including Administrative Action (page 6 of the Outline). But, for example, will "compliance agreements" be equally available to all--to individuals as well as to corporations?

The question of "compliance agreements" is of particular concern to the Council. While fully aware that compliance agreements may be useful in certain cases, the Council has fears that such agreements could undermine the whole concept of environmental legislation and regulation. ***The following recommendations are offered at this point:***

1) ***At present, no provision in the proposed Act provides legal authority to the Minister to enter into "compliance agreements". A possible solution would be to include in the proposed federal Act a provision similar to Section 116(2) of the Quebec Environmental Quality Act.***

2) ***As has been recommended in the case of federal-provincial agreements, compliance agreements should be made public documents.***

3) ***The public should have an opportunity to participate when compliance agreements are proposed.***

4) ***Specific criteria for compliance agreements should be included in the Act.***

While the Enforcement and Compliance Policy will be directly related to the proposed Act, the Council suggests that it should be in balance with enforcement policies for other environmental legislation, for example, the National Parks Act. According to our findings, there has been much more vigilant enforcement of the laws against poaching in the National Parks, than in general against pollution-related offences. We do not want to minimize the seriousness of poaching, but in our view the illegal killing of one big game animal is much less serious than a toxic discharge which may ultimately disrupt a portion of an entire ecosystem, destroying thousands of living organisms, including, perhaps, destruction or reduction of the habitat for an entire herd of big game animals. The above may be considered an illustration of another of the guiding principles listed on page 3 of the Outline: "Enforcement authorities will respond to violations in a manner proportionate to the nature of the offence."

We suggest, however, that this principle be revised to make the intent clearer by replacing the last four words with: "severity of the impact on the environment".

ENVIRONMENTAL ASSESSMENT AND REVIEW PROCESS (EARP)

It is the Council's view that an effective process for environmental assessment and review is essential to any framework for environmental protection in Canada. The current Process was established by a Cabinet decision in 1973 that gave authority to the Minister of the Environment to assess the environmental impacts of proposed activities within federal jurisdiction -- activities which were identified by the initiating department or agency as having potentially significant environmental impacts. This initial authority was followed by guidelines issued under an Order-in-Council in June, 1984. These decisions also provided the authority for establishment of the Federal Environmental Assessment and Review Office (FEARO), reporting directly to the Minister of the Environment, as the agency responsible for administering the Process.

The report "Environmental Assessment in Canada: 1985 Summary of Current Practice", published under the auspices of the Canadian Council of Resource and Environment Ministers, describes the scope of the Environmental Assessment and Review Process (EARP) as follows:

> "EARP applies to all federal proposals. A federal proposal is one that is to be undertaken directly by a federal initiating department, that may have an environmental effect on an area of federal responsibility, for which the federal government makes a financial commitment, or that is located on lands, including the offshore, that are administered by the federal government. This includes effects of proposals external to Canadian territory.
>
> "EARP applies to all federal departments and agencies. Regulatory bodies are subject to the Process unless there is a duplication of activities or a legal impediment.... EARP also applies to department and agency corporations. Other Crown corporations are expected to make EARP a part of their corporate policies unless statutory responsibilities do not permit it."

While not a legal definition, the above appears to be a generally accepted statement of the scope of the federal Environmental Assessment and Review Process.

Since its inception, EARP and its administering body, the Federal Environmental Assessment and Review Office (FEARO), have received a mixture of support in principle and criticism on specifics. This Council has, in the past, scrutinized the EARP and made recommendations for improving the Process. In the view of the Council, the EARP is an effective means of anticipating and preventing adverse impact on the environment from activities of the federal government. Criticism of any aspect of the Process does not detract from the validity of that view. The Process has now been operational for 12 years, and this Council believes that there is a need for a further review of some of the fundamental concerns which have emerged through the experience gained to date in implementing the Process. The Council intends to examine these fundamental concerns in the near future.

The Council believes, for example, that FEARO and the Minister of the Environment must have a more central role in deciding when the EARP is to be applied, while not eliminating the views of the initiating department. As it stands now this decision is taken "in-house" by the initiating department, where the potential for conflict of interest and limited environmental expertise weakens public faith in the Process.

Other central issues of the current process that have been identified in the past by this Council and by others as areas which would benefit from review include: development of a firm policy on public funding for intervenors to ensure a level of consistency of public input at EARP hearings (this is a complex question but a number of agencies have developed criteria for funding); authority for FEARO to participate with other federal regulatory agencies, such as the National Energy Board, in consolidated hearings on proposed federal projects which are of concern to both agencies (this would expedite the regulatory process and respond to criticisms about the waste of time, money and effort involved in parallel hearings on the same project by separate regulatory bodies); the use of alternatives to an assessment panel, such as the appointment of an environmental mediator, when a full panel approach may not be appropriate (provision would have to be included for the report of the mediator to be made available to the public); and provision for an EARP panel to have the power to subpoena evidence and witnesses from the public or private sectors when it is deemed necessary for a proper assessment of the issues (this question is currently being addressed by a special study group established by FEARO).

It is the Council's view, however, that refining or overhauling the Process, whichever is required, should not be allowed to impede action to overcome the primary weakness of the EARP -- the lack of a statutory base. Legislative action on EARP would not be a radical move. Environmental assessment and review processes are embodied in legislation in four provinces (Saskatchewan, Ontario, Quebec and Newfoundland) and other provinces appear to be moving in that direction. On the international scene, several countries including the United States have environmental assessment legislation at the national level, and it is under consideration in a number of others. It may be worthwhile noting that member countries of the European Economic Community are required by regulation to conduct environmental assessments on a variety of projects.

The proposed Environmental Protection Act offers an opportunity for immediate action to overcome this basic weakness of the EARP by giving it a statutory base. Most of the issues involved are already raised in the Preamble (Items C and D) and in Part III (Sections 30-32) of the proposed Act. Not only would inclusion in the Act of ministerial authority for regulating EARP provide a strengthened approach to environmental protection, but as noted earlier, it would help to justify the broader scope and title of the Act.

The Council recommends that, as a minimum, immediate action be taken to include in a new Section under Part III of the proposed Environmental Protection Act, authority for the Minister to make regulations which would cover all aspects of the Environmental Assessment and Review Process. Section 29 (Interpretation) should also be amended as required to ensure that it reflects the full scope of the EARP.

The new Section would provide authority for the Minister to make regulations regarding environmental assessment and review. It should apply to any project, as specified in the June 1984 Guidelines Order:

"(a) that is to be undertaken directly by an initiating department;

(b) that may have an environmental effect on an area of federal responsibility;

(c) for which the Government of Canada makes a financial commitment; or

(d) that is located on lands, including the offshore, that are administered by the Government of Canada."

PART II

TABULAR SUMMARY OF RECOMMENDED CHANGES TO SPECIFIC SECTIONS

Canadian Environmental Advisory Council
March 10, 1987

Section	*Suggested Changes*	*Rationale*
Title	An Act respecting the protection of the environment and human life and health.	A comprehensive environmental protection strategy should not be human-centered. This title better reflects the specific mandate of Environment Canada. (See Part I of this document. Title and Scope of EPA.)
Declaration	We recommend that priority be given consistently in the Act to the protection of the environment on which all life depends including the life and health of people.	The primary responsibility and mission of the Department is to protect the Canadian environment that constitutes the life support of all organisms including people.Protection should therefore be extended first to the environment and second to people, and the legislation should be formulated accordingly. (See Part I. Preamble.)
Preamble	Line 10 should be altered to reflect the principle established in the Declaration, i.e. the environment on which all life depends should be mentioned first.	See above rationale.
	Line 25 should be similarly altered.	
	Line 35: we wish to make it clear that the environment consists of several "spheres", therefore the sense of paragraph (a) should be expanded so that the aim of the Act is to protect and enhance the quality of the environment, consisting of the atmosphere, hydrosphere, lithosphere and biosphere.	This would reinforce the power of the Minister under Section 4 to formulate national environmental quality objectives, guidelines and codes of practice. (see Part I, Assessment and Regulation of Toxic Substances and Air Pollution.)
	P. 2, starting line 16 should be modified to reflect the principle established in the Declaration: i.e., substances that cause or may cause damage to biological organisms or the natural ecological equilibrium should be mentioned before substances that pose a significant immediate or long-term danger to human life or health.	
	P. 2. lines 38 and 44: we suggest replacing useful to human beings with "essential to the ecosystem"	See above rationale under Title and Declaration.
	P. 3. (f). We suggest first that reference be made in this paragraph also to the health or safety of the people of Canada, and secondly that the words "where that country confers the same benefit upon Canada" be deleted.	Canadian emission standards should be set to protect the environments and inhabitants of Canada and any potentially affected country in all circumstances. (See Part I, Air Pollution.)

Section	*Suggested Changes*	*Rationale*
Section 1 (short title)	We suggest as a minimum change CEPA or EPAC. The comprehensive nature of the title should be retained, and further measures of protection should be added.	1) Possible confusion with the US' "EPA" 2) A true environmental protection act should include the protection of the ecosphere. The proposed act is mainly designed to control chemicals. (See Part I, Title and Scope of EPA.)
Sec. 2(1) "substance"	The term "substance" needs additional clarification in this Act.	See Part I of this document, Title and Scope of EPA.
	P. 4. We recommend adding after (c): "complex mixtures of different molecules that are contained in effluents or emissions released in the environment as the result of an industrial, domestic, commercial, or public waste disposal practice."	The Act is unclear whether complexes of substances in effluents or emissions are included. They should be.
Sec. 2(2)	The Council recommends that Ministerial decisions be taken in most instances by "either Minister".	If both Ministers must agree or consult before a decision is taken, serious delays will result in the decision-making process. The term "either Minister" recognizes the fact that, since the purpose of the Act is to protect the environment, and not necessarily health, either Minister should be able to act alone in appropriate circumstances. (See Part I, Regulation and Assessment of Toxic Substances.)
Sec. 4(1)(b)	Products of biotechnology should be included.	Living materials, including viruses, that are products of biotechnology raise special problems as to whether they should be released in the environment. (See Part I, Assessment and Regulation of Toxic Substances.)
Sec. 5	In the Council's view, the definition of "toxic substance" requires additional definition or clarification. We suggest adding a paragraph such as the following: "the substance is entering or will enter the environment in a quantity or concentration or under conditions that, when acting in concert with other substances already in that environment, will collectively have an additive or cumulative effect on that environment (which may or may not include synergistic or antagonistic effects) that constitute or will constitute an immediate or long term deleterious effect on its receiving ecosystem(s) and/or human life or health."	Single additions of a single toxic may, by themselves, not provide a sufficient concentration to cause a deleterious effect. However, there are many instances when additions of single toxics either repetitively or in situations where other toxic substances are also present in small concentrations collectively exceed the level of tolerance, and deleterious environmental effects result. The potential for these cumulative effects should be recognized in the proposed Act. (See Part I, Title and Scope of EPA.)
Sec. 5(a)	We recommend mentioning the environment before human life or health.	See above rationale under Title and Declaration.

Section	*Suggested Changes*	*Rationale*
Sec. 10	A provision should be added to provide that, notwithstanding subsection (1), all results of tests made to ascertain toxicity shall be disclosed on request. It would be advisable to provide in this section for a summary procedure to resolve disputes concerning confidentiality of particular information.	Nondisclosure of this type of information restricts seriously public participation rights. (See Part I, Public Involvement.)
Sec. 11(a)	(ii) line 22 should be altered to reflect the principle established in the Declaration: i.e. the environment should be mentioned before human life or health.	See above rationale under Title and Declaration.
	(iv) We recommend adding after accumulate "or be metabolized".	Many examples exist in the scientific literature of substances that are taken up and metabolized so that they do not appear to accumulate, but the metabolic products cause deleterious effects.
Sec. 14	We recommend replacing the Ministers by "either Minister".	See above rationale under Sec. 2(2).
	Paragraphs (a), (b) and (c) should include a short definition of Schedules I, II and III, e.g.: Schedule I, "the consolidated list of chemicals now in use in Canada", Schedule II, "the consolidated list of chemicals known to exist in the world but not yet used in Canada", and Schedule III, "the consolidated list of chemicals exported from Canada".	Since Schedules are not defined in Section 2 of the Act, a short explanation of the contents of Schedules I, II and III would be useful at this stage, for purposes of clarity.
Sec. 15(2)(a)	Please refer to Part I of this document, Assessment and Regulation of Toxic Substances for specific recommendations concerning substances excluded from the Act by "pre-emptive legislation".	
Sec. 15(2)(d)	We suggest adding: "such that the environmental fate and effects of the substance are changed insignificantly".	The exclusion with respect to molecular weight and ratio is too broad.
Sec. 15(2)(c)	We suggest adding: "unless such production results in a significant increase in the potential for environmental or human health effects".	Potential changes are often known or can be predicted (See Part I, Assessment and Regulation of Toxic Substances.)

Section	*Suggested Changes*	*Rationale*
Sec. 16	The words the Ministers should be replaced by "either Minister" throughout the section.	See rationale under sec. 2(2).
Sec. 16(2)	In assessing the information provided, the Minister should take into account the matters listed in section 11(a), and the decision taken should be based upon substantial evidence that the substance is not toxic.	This amendment is intended to clarify and structure the discretionary powers of the Minister with respect to substances new to Canada.
Sec. 17	The words the Ministers should be replaced by "either Minister".	See rationale under sec. 2(2).
Sec. 18	The words the Ministers should be replaced by "either Minister" throughout the section.	See rationale under sec. 2(2).
	It might be advisable to include in this section a short description of the contents of Schedule IV (e.g. the 5 chemicals listed in the Schedule to the Environmental Contaminants Act, the proposed CEAC list, and any additional substances).	Chemicals generally recognized as toxic should be placed on Schedule IV immediately. (See Part I, Assessment and Regulation of Toxic Substances.)
	This section should provide for the right to petition the Minister to add a substance to Schedule IV.	The proposed Act gives no opportunity to question ministerial decisions not to review and assess a substance. (See Part I, Board of Review Process.)
18(4)	We recommend mentioning the environment before human life or health.	See rationale under Title and Declaration.
Sec. 19	The words the Ministers should be replaced by "either Minister".	See rationale under Sec 2(2).
	Suggested areas for regulation pertain mainly to the "cradle" aspects; consideration should be given to strengthening the "late life" and "grave" aspects of regulatory powers.	See Part I, Assessment and Regulation of Toxic Substances.
Sec. 22(2)	This section should provide an incentive to those involved in the spill to initiate clean-up action by making it clear: 1) that voluntary clean-up action will not be considered by the Courts to be an admission of liability, 2) that liability for actions taken in the course of voluntary clean-up should be limited. Persons undertaking voluntary clean-up should benefit from the protection afforded by Section 22(5).	This would avoid delay in clean-up of spills due to the concern of those involved that by taking prompt clean-up action, they might increase the likelihood of being found liable. (See Part I, Implementation and Enforcement.)

Section	*Suggested Changes*	*Rationale*
22(2)	We recommend replacing the Governor in Council by "the Minister".	A cabinet decision in these circumstances will only reduce the speed of the enforcement process: The authority to act should rest with the Minister of the Environment.
Sec. 25(1)	line 11: it might be advisable to add "Schedule IV" after Schedule III.	Export regulation should apply to all toxic substances.
	The Council recommends that not only should notice be given of the proposed export to the country of destination, but a reply accepting shipment should be received within a specified period of time (informed consent).	This ensures that Canada is satisfied of the receiving country's awareness. (See Part I, Assessment and Regulation of Toxic Substances.)
25(4)	We recommend replacing may by "shall".	With respect to export of toxic substances, there is no reason to leave the Minister discretion as to publication of the proposed export.
Sec. 26(1)	Ministerial decisions in response to a petition under Section 18 (as amended above) to initiate or decline to initiate departmental review of a substance should be added to this section.	These amendments reflect the above recommendations with respect to the right to petition the Minister to add a substance to Schedule IV (s. 18).
Sec. 27(7)	The power to withhold disclosure of Board of Review reports should be removed.	The open, public nature of the process requires that reports be freely and fully available.
Sec. 27(8)	Notice by publication and a reasonable opportunity to make representations should be given where procedural orders are proposed under Section 27(8).	See Part I, Board of Review and Public Involvement.
Part III	We recommend that a new section be included in Part III of the proposed Act giving authority to the Minister to make regulations which would cover all aspects of the Environmental Assessment and Review Process.	The proposed Act offers an opportunity to overcome the primary weakness of the EARP, the lack of a statutory base. (See Part I, Environmental Assessment and Review Process.)
Sec. 30	This section should be reworded to provide for the establishment of regulations (not only guidelines) for the protection of the environment.	This would ensure that environmental requirements related to acts or operations within the federal legislative jurisdiction are capable of legal enforcement. (See Part I, Standards and Guidelines.)
Sec. 32	This section should include a requirement for publication of the assessment of the environmental effects of proposed federal works and undertakings.	The federal government has an obligation to report to Canadians on its own performance as a steward of the environment in which they live.

Section	*Suggested Changes*	*Rationale*
Part IV	It should be made clear in Part IV whether domestic air pollution is regulated under this Act.	Domestic air pollution should be regulated to the extent of federal constitutional jurisdiction.
Sec. 37	The whole section should be deleted.	Canadian emission standards should be set to protect the environments and inhabitants of Canada and any potentially affected country in all circumstances. (See Part I, Air Pollution.)
Part V	This part should include provisions for public funding, reasons for decisions and a reasonable opportunity to make representations. Provision should also be made for notice and participation through written comments when regulations, standards, or guidelines are proposed.	Public participation rights would be enhanced. (See Part I, Public Involvement.)
Sec. 41	This section should reflect the recommendations made in Part I, Implementation and Enforcement	
Sec. 52	Contravention of or failure to comply with any regulations made under Section 30 should also be an offence under this section. It would be advisable to redraft this whole section to limit the defence of due diligence, and to specify that the offences under clauses (b) to (h) inclusive are absolute liability offenses.	See Section 30 as amended above. Section 60, and the general characterization by the courts of environmental offences as strict liability offences may water down excessively the offence provisions in the Act. (See Part I, Implementation and Enforcement.)
Sec. 54	We recommend that the words "in contravention of this Act" be deleted from this section. Consideration should be given to the incorporation of an equivalent provision in the Criminal Code, as recommended by the Law Reform Commission in 1985.	This offence should cover serious damage to the environment whether or not it involves an offence under this Act. See Part I, Implementation and Enforcement.
Sec. 60	This section should be amended to reflect our previous recommendations relating to section 52, i.e. to limit the defence of due diligence.	
Sec. 70	This section should be amended to allow any person or group to initiate legal action, and in particular to ask for an injunction. The restriction to offences under this Act and to actions that cannot be adequately prevented or remedied under any other section of the Act should be removed.	See Part I, Public Involvement.
Schedule IV	Include the proposed CEAC list.	This would avoid a delay between the passing of the legislation and its effective implementation and enforcement. (See Part I, Assessment and Regulation of Toxic Substances.)

PART III

ANNEXES

ANNEX 1

Attendance List
February 11-12 CEAC Workshop

Members

Mr. Tom Beck, Chairman
Dr. Shirley Conover, International Projects Coordinator, School for Resource and Environmental Studies, Dalhousie University
Dr. Stan Rowe, Department of Crop Sciences and Plant Ecology, University of Saskatchewan
Dr. Lorne Giroux, Professor of Law, University of Laval
Ms. Diane Griffin, Island Nature Trust, P.E.I.
Dr. Joe Gardner, retired Dean of Forestry, University of British Columbia
Dr. Robert Page, Professor, Environmental Centre, Trent University

Former Members

Dr. Robert Bergeron, retired Dean, University of Chicoutimi
Dr. Donald Chant, Chairman and President, Ontario Waste Management Corporation
Dr. Ross Hall, Professor, Department of Biochemistry, McMaster University
Ms. Susan Holtz, Project Coordinator, Ecology Action Centre
Mr. Ben Hubert, President, Boreal Ecology Services
Professor Alastair R. Lucas, Faculty of Law, University of Calgary
Dr. Peter Meincke, Former President, University of P.E.I.
Dr. Donald Mackay, Professor, University of Toronto
Ms. Marjory Loveys, Energy Pathways

Advisers and Council Staff

Mr. Max McConnell, Executive Director, CEAC
Ms. Veena Halliwell, Project Coordinator, CEAC
Ms. Monique Ross, Project Coordinator

Presentation by Environment Canada on February 10

Mr. P.M. Higgins, Director General, Conservation and Protection
Mr. G.A. Allard, Director, Commercial Chemicals Branch

ANNEX 2

LEGAL REVIEW OF THE PROPOSED ENVIRONMENTAL PROTECTION ACT

Alastair R. Lucas
Professor and Director of Research
Faculty of Law
University of Calgary

Report Prepared for the
Canadian Environmental Advisory Council

February 9, 1987

ANALYTICAL CRITERIA AND SCOPE OF THE REVIEW

The proposed Act has been reviewed from a legal point of view in relation to the following general criteria: (1) scope of environmental protection, (2) gaps in the legislation, (3) clarity and certainty of the legislation, (4) adequacy and effectiveness of public participation, (5) potential for overlap or conflict with other federal or provincial statutes, and (6) appropriateness and effectiveness of enforcement and compliance mechanisms. In addition, the consultative process for the proposed Act is reviewed. The potential role of CEAC in the consultative process, and in the subsequent legislative process is also considered.

Major headings are:

1. What the Act Covers
2. What the Act Does Not Cover
3. Public Participation
4. Procedural Fairness
5. Enforcement and Compliance
6. Not An Environmental Bill of Rights
7. Constitutional Jurisdiction
8. Adequacy of the Consultation Process
9. The Legislative Process and CEAC Action

Included under these headings are such topics as appeal mechanisms, relative scope of federal and provincial constitutional jurisdiction, legal burden of proof and standard of proof, and the potential effect of the Canadian Charter of Rights and Freedoms.

1. What the Act Covers

The proposed Act includes four main subjects:

(a) Part I, Toxic Substances, provides comprehensive regulatory authority for life cycle management and control of toxic substances, as defined.

Emphasis is on compelling production of information and assessing substances, including substances proposed to be imported or manufactured for the first time, in order to determine whether a substance is toxic and therefore a candidate for regulation, temporary prohibition, further assessment, and ultimately listing in Schedule IV. Listed substances may then be the subject of regulations to impose a wide range of controls, including complete prohibition.

Basically this Part amounts to a repeal and reenactment, with some extension, of the Environmental Contaminants Act. The extension includes, principally, powers to compel production of a broader range of information on potentially toxic substances. In particular, information may now be required where the Minister "suspects" that a substance may be toxic (s. 9). Under the Environmental Contaminants Act the standard was that the Minister had "reason to believe" that a substance is toxic. A catch-22 situation was thus created in which such a reasonable belief could only be formed on the basis of the very information that the Minister was attempting to obtain.

Note that section 5 contains a definition of "toxic" that does not appear in the existing Act. The definition is in terms of "significant . . . danger to human life or health or the environment". Quaere whether these factors, and particularly the terms "natural ecological equilibrium" and "largely irreversible effect on the environment", are clear and certain enough to make the definition workable?

(b) Sections 20-21 of Part I (fuels regulation) and Part IV, International Air Pollution, deal with regulation and control of air pollution. These parts amount to a repeal and reenactment, with some restriction, of the Clean Air Act. Part IV provides for the establishment of national emission guidelines for air contaminants from any source, and for establishment of national emission standards for air contaminants from specified classes of stationary sources.

Such standards may be prescribed only in relation to stationary source contaminants likely to result in violation of the terms of international obligations entered into by Canada, for control of air pollution in "regions adjacent to any international boundary, or throughout the world" (s. 34). Specific emission standards for any source may also be prescribed by Cabinet where the Minister has reason to believe that air contaminants from such sources may constitute a "significant danger to the health, safety or welfare of persons in a country other than Canada" (s. 36).

(c) Part II, Nutrients, provides authority for regulation of nutrient substances that may cause water contamination. This part essentially repeals and reenacts Part III of the Canada Water Act.

(d) Section 4, headed National Environmental Quality Objectives, authorizes the Minister to formulate a full range of national environmental quality objectives, guidelines and codes of practice. There is no mechanism in the Act to permit direct enforcement of any objectives, guidelines or code requirements developed under this power.

(e) Part III is new. It compendiously defines "federal works or undertakings", essentially by spelling out generally the scope of federal constitutional jurisdiction in relation to works and undertakings. There is a power vested in the Minister, subject to Cabinet approval, to establish environmental guidelines for use by Federal departments, boards and agencies, and "where appropriate" by Schedule C Crown Corporations, such as the CNR and Petro-Canada (s. 30). This section repeals and reenacts section 6(2) of the Department of the Environment Act. Cabinet, on the recommendation of the Minister, and with the concurrence of other responsible ministers, is authorized to make environment protection regulations in relation to any federal works, undertakings, lands or waters (as defined) (s. 31).

Finally, the Minister is empowered to require anyone who proposes a federal work or undertaking, that is likely to result in the release of a substance [widely defined in s. 2(1)] into the environment, to submit plans, specifications and other information for assessment and determination of what measures, if any, would prevent or mitigate environmental damage. In form, this latter provision is analogous to s. 33.1 of the Fisheries Act but unlike the latter, it lacks a ministerial approval power to potentially prohibit the

proposed work or undertaking if assessment discloses the likelihood of environmental harm.

(f) Part V, General, contains the range of implementation, administrative and enforcement provisions including, additional regulation - making power concerning substance standards; agreements with provinces; inspection, search, seizure and forfeiture; offences and penalties; and other remedies.

(g) Part VI, Consequential Amendments and Repeal, includes repeal of the Environmental Contaminants Act and the Clean Air Act.

(h) Part VII, Coming into Force. Note that flexibility is given by the provision that the Act or any particular provision or provisions comes into force on a day fixed by proclamation and published in the Canada Gazette.

2. What the Act Does Not Cover

The following "gaps" in the Act are identified in the context of the range of existing federal environmental legislation and policies.

(a) The existing Clean Air Act provisions for regulation and control of domestic (as opposed to international) air pollution, that would "constitute a significant danger to the health of persons", is not covered. Even air pollution that has interprovincial, but not international effects appears not to be covered. For this reason, the marginal note for section 34 that this provision is "the same as that found in section 7(1) of the Clean Air Act", is inaccurate. The result appears to be a substantial contraction in the scope of the existing Clean Air Act.

It may be arguable that because of the wide definitions of "substance" and "toxic" in Part I of the proposed Act, it is possible to add classes of domestic air contaminants to Schedule IV and then regulate them by means of regulations under section 19(a). However, there are a number of factors that suggest a narrower interpretation that would limit the scope of Part I to toxic chemicals. These include:

- only international air pollution is covered by more conventional provisions for establishing and enforcing emission standards in Part IV;
- the section 8 information requirements are limited to substances "imported, manufactured or processed . . . or used . . . in any such activity or in any commercial activity";
- the identification and toxicity assessment process of Part I suggests that it is tailored for chemicals;
- many of the section 19 regulation-making powers refer to importation, manufacture, processing or use.

Such factors suggest that Part I is essentially intended to regulate toxic chemicals and not air contaminants such as particulate matter.

(b) While section 6(2) (objectives, guidelines) of the Department of the Environment Act is incorporated, section 6(1) concerning ministerial powers in relation to general environmental management, and federal environmental impact assessment, is left in the Department of the Environment Act. In particular, it seems appropriate that the legislative basis for the Environmental Assessment and Review Process should be included in a comprehensive federal Environmental Protection Act.

(c) The Act's direct application to water pollution is limited to regulation of phosphates. Although the phosphates part has been incorporated from the Canada Water Act, the latter Act's main water quality control provisions have not. Parts I and II of the Canada Water Act provide for federal-provincial water management and for federal standards and water quality management of interjurisdictional waters. "Interjurisdictional waters" is defined to include international and boundary waters. Thus these parts of the Canada Water Act are the international water pollution counterparts of that portion of the Clean Air Act dealing with international air pollution which is incorporated into the proposed Act. However, these Canada Water Act provisions also include federal powers to establish standards and to regulate the quality of interprovincial waters, and even waters wholly within a province that significantly affect the quality of waters outside that province, whether in the United States or the coastal marine belt.

(d) The proposed Act also does not incorporate the specific air and water pollution provisions of the Canada Shipping Act, or the water pollution provisions of the Arctic Waters Pollution Prevention Act, the Northern Inland Waters Act, and the Ocean Dumping Control Act. Of this group of statutes, only the Ocean Dumping Control Act is administered by the Department of the Environment. However, Part III, and section 22 (release of toxic substances) of the proposed Act do purport to establish powers to make regulations and remedial orders that, on their face, are wide enough to permit filling gaps left by these or other federal environmental statutes.

(e) It is not clear how the provisions of the proposed Act (particularly Parts I and II) fit with the water contaminant standards and penalty provisions of the Fisheries Act and Regulations. For example, section 22(1) gives the Cabinet power to order emergency remedial measures to deal with release of toxic substances, whether or not the name of a substance appears in Schedule IV. This is wide enough to include many "deleterious substances" as defined in the Fisheries Act.

(f) The link between the proposed Act and the Pest Control Products Act (administered by the Department of Agriculture) is not made clear. The mandatory reporting requirement for "substances new to Canada" does not apply in respect of substances, "the use of which is regulated under any other Act of Parliament that provides for notice to be given prior to their manufacture or importation and for an assessment to be made of their toxicity". Section 4 of the Pest Control Products Act prohibits importation into Canada or sale of a "control product" (defined in terms of pest control use, but not toxicity) unless the product has been registered and conforms to prescribed standards. There is no mention of assessment of toxicity in the Act, though the Regulations authorize the Minister of Agriculture to require information to permit determination of the "safety, merit and value", of the control product.

(g) Part III of the proposed Act may not be as wide as suggested above. In particular, section 31 may, as a matter of statutory interpretation and principles of delegation of statutory powers, be so general that it is legally incapable of enforcement. Briefly, the reason is that a power to make regulations must be relatively specific and certain as to its subject matter. The power is governed by and cannot extend beyond the scope of the Act in which it is included. Therefore the scope of the s. 31 power may be limited to regulations related to the principal subjects covered by the proposed Act, namely toxic chemicals, nutrients, fuels and international air pollution. Since, for example, the Act does not deal with water contaminants (apart from toxic substances, as defined in Part I, and nutrients), and since this matter is covered in other statutes (particularly the Fisheries Act and the Canada Water Act), Parliament is presumed not to have intended that the regulation-making power extend to water contaminants generally.

3. Public Participation

There are several potential problems concerning the adequacy of opportunities for public participation under the Act. Public participation is provided for in several places. These include opportunities for interested or concerned members of the public to make representations to advisory committees reviewing information relevant to the toxicity of substances under section 12, and the right of "any person" to have a "reasonable opportunity" of appearing, presenting evidence and making representations to a Board of Review established under section 27. It is also significant that "any person", which includes any member of the public, is entitled to file an objection under section 26 to proposed orders adding substances to the Schedules or dealing with emergencies (s. 18(4)), or to proposed regulations under section 19.

However, it should be noted that the entire Board of Review process is somewhat restricted and does not, for example, include decisions in relation to "new to Canada" substances under sections 15 and 16. Nor does the Board of Review system extend beyond toxic substances and fuels, to include, for example, the setting of standards for air contaminants. However, in the case of proposed specific air contaminant emission standards where persons in a foreign country are endangered, (s. 36) there is a more limited opportunity for "affected" Canadians, as well as representatives of the foreign government to make representations to the Minister.

The following are potential weaknesses in the provisions for public participation:

(a) Members of the public have no right to object and trigger establishment of Boards of Review in the case of ministerial decisions to take no action following assessment of a substance. (See Report of the ECA Amendments Consultative Committee, recommendation at p. 43.) Nor, as indicated above, are section 16(2) determinations concerning substances new to Canada subject to objection.

(b) There are no clear rights to public participation in the establishment of emission standards under section 34 to ensure compliance with an international agreement. Such rights are provided only under section 36, in the case of national emission standards where persons in a foreign country are

endangered. Nor are there public participation rights in the establishment of national emission guidelines under s. 35. The Environment Council of Alberta has noted the importance of value factors, and the consequent need for public participation in setting ambient standards (Environment Council of Alberta, Alberta's Clean Air Act, March, 1985, pp. 1-2). Similarly, public participation is not provided for in the case of establishment of environmental guidelines for federal departments and agencies under section 30 and the formulation of national environmental quality objectives, guidelines and codes of practice under section 4.

In all of these cases, public participation could be provided as a matter of policy. However, inclusion of clear public participation rights in the Act itself would underline government commitment to public involvement, and would arguably enhance government accountability and increase public confidence in the system established by the Act.

(c) There are no rights of appeal (apart from the limited jurisdiction of Boards of Review) either to administrative or judicial bodies (see Procedural Fairness below).

(d) The statutory private right of action under section 71 is a mechanism to facilitate a form of public participation. However, consideration should also be given to including a provision to support and encourage the initiation of private prosecutions under the Act's various penalty provisions. While private prosecutor's rights may exist at common law in any event (LRC, Private Prosecutions, Working Paper 52, 1986), statutory rights can still assist and encourage private prosecutors. An example is section 56 of Manitoba's proposed new Environment Act which specifies that any person may lay an information in respect of any offence against the Act. Supporting private prosecutions in this way is consistent with the Law Reform Commission's recommendations in Working Paper 52.

4. Procedural Fairness

This section deals with several formal matters that are related to the review of opportunities for public participation above.

(a) Appeal

First, appeal rights are limited to the Board of Review procedure and that procedure is restricted as indicated above. What is required is a broadening of the Board of Review process to include major omissions already noted. In particular, ministerial non-action and standard setting apart from toxics may be brought within the Board of Review provisions.

A second requirement is an ultimate right of appeal to an independent body. If Board of Review powers are broadened as suggested, it may be appropriate to make this ultimate appeal to the Federal Court. This appeal may be limited to questions of law and jurisdiction. The idea is that difficult technical and public policy decisions would be left to the Boards of Review, the Minister and the Cabinet with provision for extensive public participation, as suggested. The function of the court on appeal would simply be to ensure that decisions are taken fairly, that they are based on proper and

relevant considerations, and that they do not involve serious errors in the interpretation of the Act. In short, the appeal rights should ensure that the decision-makers are not the final judges of the fairness and legality of their decisions.

(b) Reasons for Decision, Disclosure and Confidentiality

A second matter that is relevant to the effectiveness of public participation and the quality of decisions is information and disclosure. One aspect is ensuring that written reasons are required for Board of Review and ministerial recommendations concerning scheduling or not scheduling substances, and for decisions to make or decline to make remedial orders. Reasons force consideration and articulation of the rationale behind decisions, and contribute to openness and general public confidence in decisions. A requirement for written reasons should specify that both the material facts on which the decision is based and the reasons for the decision must be clearly set out.

Section 10 prohibits disclosure of information given in confidence concerning potentially toxic substances, including trade secrets and valuable financial, commercial or technical information. Some protection of this type is justified. However, excessively broad definition of this class of information will have a serious dampening effect on public participation and consultation rights. A balance must be struck, and a key factor may be provision for credible independent review in case of dispute. Consideration should be given to some form of summary judicial procedure to determine disputes about confidentiality of information and to make appropriate orders.

(c) Burden and Standard of Proof

Consideration should be given to what the appropriate burden and standard of proof should be in decisions concerning toxicity of substances and generally in the formulation of standards. If the burden lies with proponents, as the powers concerning production of information suggest, this could appropriately be spelled out in the Act. It would mean that the burden of supplying evidence to show non-toxicity clearly lies on the proponent. The result may be that if evidence is inconclusive or evenly balanced, a substance should be considered to be toxic so that regulation could potentially follow.

The "evenly balanced" possibility raises another problem. This situation is based on the assumption that the appropriate standard of proof is the legal civil standard of balance of probabilities or "more probable than not". In view however, of potential knowledge gaps and uncertainty and considering the significance of the consequences of failure to regulate a substance that may ultimately prove to be toxic, a higher standard of proof may be justified. This suggests the appropriateness of a type of risk-benefit approach involving a flexible standard of proof, with the degree of certainty required to be established by the proponent varying with the gravity of the alleged harm and the benefits of a proposed substance. Normally this would result in a standard of proof more stringent than balance of probabilities. See Franson, et al., Canadian Law and the Control of Exposure to Hazards, Science Council of Canada Background Study No. 39, October, 1977 at pp. 55-58.

5. Enforcement and Compliance

The proposed Act provides an unusually wide range of remedial procedures including a variety of offence provisions graduated according to gravity of the harm, and provisions for mandatory orders, ticketing, injunctions, and private civil actions. A general question is how these statutory enforcement powers will be used in practice under the forthcoming Compliance and Enforcement Policy. The following are specific questions and comments.

(a) There is a wide range of enforcement powers, but further flexibility could be introduced by including powers to adopt other compliance "tools" such as mediation, contractual arrangements (Barton, et al., A Contract Model for Pollution Control, Vancouver: Westwater, 1984), sale of property rights (Proposed Manitoba Environment Act, s. 58), or emission charges (Canada Water Act, s. 13).

(b) Is the major section 54 Damage to the Environment offence framed too narrowly? It is limited to action that contravenes the Act. Should the offence be more broadly framed in terms of "damaging or endangering the environment", as recommended by the Law Reform Commission of Canada in Crimes Against the Environment, Working Paper No. 44, 1985? Further, would the importance and gravity of an offence of this kind be underlined by placing it in the Criminal Code, as recommended by the Law Reform Commission?

(c) Is there insufficient specific authority and encouragement for private prosecutors, as suggested above (p. 6)?

(d) There is an incompletely resolved legal issue as to whether corporations can be put on probation (Swaigen and Bunt, Sentencing in Environmental Cases, Law Reform Commission of Canada Study Paper, 1985 at pp. 63-64). This is relevant to section 63(2)(c) and should be clarified.

(e) The section 44 powers to enter, search and seize evidence without warrant where "exigent circumstances" make it impractical to obtain a warrant, are potentially subject to challenge under section 8 ("unreasonable search or seizure") of the Canadian Charter of Rights and Freedoms. See Hunter v. Southam Inc., [1984] 2 S.C.R. 145 (S.C.C.).

(f) National emission guidelines authorized by section 35 are not directly enforceable. This and more generally, the cutting down of the scope of the Clean Air Act, suggests an undue reliance on the provinces. Formal federal-provincial mechanisms, including enforceable agreements, may be necessary to ensure effective enforcement of air quality standards.

(g) Recent judicial developments suggest that individuals or groups whose activity or conduct establishes a broadly defined "genuine interest" will have standing to bring legal action to challenge actions by public officials or agencies that exceed statutory powers. (Minister of Finance v. Finlay, Supreme Court of Canada, December 18, 1986.) This is potentially a two-edged sword which gives both polluters and concerned citizens and groups the right to launch challenges to actions taken under the Act that raise "serious legal issues" of this kind.

(h) It may be appropriate to enhance enforceability as well as underline the gravity of certain offences (such as certain section 52 offences) by removing the section 60 due diligence defence and recasting them as absolute liability offences. While this approach carries some constitutional risk, there are indications in Reference Re Section 94(2) of the B.C. Motor Vehicle Act, [1986] 1 W.W.R. 481 (S.C.C.), that environmental offences may be validly structured as absolute liability provisions. The Supreme Court of Canada suggested that absolute liability offences do not per se offend section 7 of the Charter of Rights, and agreed that while absolute liability "public welfare offences" such as air and water pollution offences, may contravene section 7, they may nevertheless be justified as, for example, necessary to protect against natural disasters. A great deal will turn on the combination of the particular absolute liability offence and any imprisonment prescribed.

6. Not an Environmental Bill of Rights

The proposed Act cannot be described as an Environmental Bill of Rights. The concept of a Bill of Rights involves vesting rights to a clean and healthy environment in individual citizens. This may be done by means of a constitutionally entrenched instrument such as the Canadian Charter of Rights and Freedoms, or simply by an ordinary statute. However, the key concept is broadly defined environmental rights vested in individuals, which can then be enforced through legal action. Environmentally harmful actions by public or private persons or agencies will be declared invalid and unlawful to the extent that they are found to conflict with the protected environmental rights. An example is the Michigan Environmental Protection Act 1970 (Mich. Comp. Laws Am. Sec. 691.1201) which permits any person or organization to sue "for the protection of the air, water and other natural resources and the public trust therein from pollution, impairment or destruction." A Canadian example is the Quebec Environment Quality Act which provides:

> 19.1 Environmental rights.--Every person has a right to a healthy environment and to its protection, and to the protection of the living species inhabiting it, to the extent provided for by this act and the regulations, orders, approvals and authorizations issued under any section of this act.
>
> 19.2 Recourse.--A judge of the Superior Court may grant an injunction to prohibit any act or operation which interferes or might interfere with the exercise of a right conferred by section 19.1.
>
> 19.3 Natural person.--The application for an injunction contemplated in section 19.2 may be made by any natural person domiciled in Québec frequenting a place or the immediate vicinity of a place in respect of which a contravention is alleged.
>
> Attorney General.--It may also be made by the Procureur général and by any municipality where the contravention is being or about to be committed.

It should be noted that the Quebec rights are narrower, in that they are limited to the extent of environmental protection provided by the Act. The Michigan Act is a broader and "purer" form of Environmental Bill of Rights.

These Bills of Rights are more than statutory private rights of action like section 71 of the Proposed Environmental Protection Act. The difference is that a Bill of Rights permits legal action to challenge environmentally damaging actions that are "public" in character and do not necessarily involve the direct physical harm to persons or to property that is necessary to support an ordinary private law action.

The Declaration and Preamble to the Act are thus not an Environmental Bill of Rights. Rather, the effect of these provisions is accurately stated by the explanatory notes as setting out "the constitutional bases for the Act, the environmental protection policy of the Government, and a summary of the essential elements of the legislation". They are a statement of the policy and purpose of the Act and they are relevant, but not conclusive, should issues of constitutionality, or of interpretation of particular provisions of the Act arise.

A federal Environmental Bill of Rights is not precluded by the constitutional division of powers. However, such a federal bill must be carefully tailored to limit public rights of action to environmentally damaging actions by persons engaging in activities that fall within subjects of exclusive federal legislative power. The scope of this exclusive federal jurisdiction is outlined below.

7. Constitutional Jurisdiction

Division of Legislative Powers

Concern has been expressed about potential Charter of Rights vulnerability of the section 44 search and seizure powers. There are fewer concerns about vulnerability based on the division of federal and provincial legislative powers under the Constitution Act, 1867. Federal power to enact environmental protection laws has been the subject of few judicial decisions. However, the authorities suggest that generally, while provincial powers are based on property and transactions between individuals in the provinces, the core of federal environmental powers, apart from the relatively specific fishery protection power [Constitution Act, 1867, s. 91(12)] and certain other specific powers in relation to types of works (that form the basis for the definition of "federal works and undertakings" in section 29), is based on a combination of criminal law and "peace, order and good government" powers. The latter appears to have particular strength where matters of national public health and safety are involved. If this is coupled with conditions in which more than one province or a foreign country is affected, and if realistically, the individual provinces could not be expected to address the problem in an effective way, the basis for federal legislative jurisdiction is strengthened. It can be seen that the central features of the proposed Act - control of toxic substances that may endanger life and health, nutrients, and international air pollution, are matters that can relatively easily fit into this core of federal jurisdiction.

It is also apparent that there is at least some constitutional rationale for the federal retreat in the area of domestic air pollution. The closer such regulations come to dealing substantially with provincial property or local commercial arrangements, the more suspect the federal constitutional basis. On the other hand, there have been decisions such as Canada Metal v. The Queen (1983), 144 D.L.R. 3d 144 (Man. Q.B.), that suggest that air pollution, which by its nature is not confined within provinces, creates the "beyond provincial concern or ability" and "provincial inability" conditions necessary to support federal jurisdiction.

One potential weakness however, enters federal environmental laws when they move beyond "criminal" penalty-type enforcement mechanisms. These latter are firmly based on the federal criminal law power. However, private rights of action (like s. 71), mandatory order powers, and provisions in the nature of environmental bills of rights (above) are no longer criminal matters, but may be seen to affect private property, contracts and other private rights within provinces. Presumably, this is one of the reasons why the Preamble of the Act refers to production of substances becoming of ever increasing economic importance, and states that such production is "a matter of national and international trade and commerce". The object is to call in aid section 91(2) of the Constitution Act, The Regulation of Trade and Commerce. However, it must be noted that such federal regulatory authority based on international trade and commerce is somewhat uncertain, and a national trade and commerce basis is even more problematic.

Canadian Charter of Rights and Freedoms

It is possible, but unlikely that environmental rights may be enforced directly under the Canadian Charter of Rights and Freedoms. Section 7 states that:

> Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice.

Thus, environmentally damaging actions may be alleged to infringe the rights to life or security of the person and to be fundamentally unjust. However, the Charter essentially applies only to laws and actions of federal and provincial governments and their public agencies. A second problem is that it will be necessary, as a matter of evidence, to establish that protected rights are infringed. As in the Cruise Missile case [Operation Dismantle v. The Queen (1985), 59 N.R. 1 (S.C.C.)] it may be impossible to establish the necessary causal connection between the action and a citizen's rights to life or security of the person. Finally, even if a Charter-protected right is infringed, the action can still be upheld if a court concludes that under s. 1 of the Charter it is "reasonable and demonstrably justified in a free and democratic society". The court considers whether the purpose of the infringing law or action is "sufficiently important" and whether in its effects it is rational and proportional to the sufficiently important purpose. Thus, a range of factors including economic and other public objectives may be weighed by the court.

In fact, the primary impact of the Charter on environmental law may not be as an additional means of asserting environmental protection rights, but as a negative force that may render certain environmental laws ineffective. An example is the possibility raised at p. 8, that the section 44 warrantless search powers may be struck down as infringing section 8 of the Charter. A second possibility suggested at p. 9 is that certain environmental offence provisions that combine absolute liability offences and provision for imprisonment may be struck down as contravening section 7 rights to liberty or security of the person.

8. Adequacy of the Consultation Process

The adequacy of the period for consultation on the proposed Act may be questioned. Taking the Christmas pause into account, the schedule suggests that the consultation period amounts to less than three months. Is this adequate, in view of the range of potential interests, the complexity of the draft legislation, and the policy and regulatory significance of the proposed Act?

Changes in federal environmental legislation do not occur frequently. In fact, it is arguable that this is the first major environmental legislation overhaul since the flurry of legislative activity in the early 1970's that produced Canada's first true environmental statutes. Another major factor is the delay in the release of the proposed Compliance and Enforcement Policy. This Policy is highly relevant to a clear understanding of how the proposed Act will actually be implemented and administered.

9. The Legislative Process and CEAC Action

Clearly the first step for CEAC is developing input for the initial consultation process on the draft legislation. However, consideration should also be given to the possibility of direct public information by CEAC at this stage to supplement and improve the department's regional information sessions.

Consideration should also be given to a CEAC brief and parliamentary committee appearance when the legislation reaches the committee stage. It must be remembered that at that point the principle of the Act will have been approved by Parliament, and submissions should be directed to more specific aspects of the legislation.

Revised February 27, 1987
ARL/bh

ANNEX 3

A CRITIQUE OF ASPECTS OF THE PROPOSED ENVIRONMENTAL PROTECTION ACT

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A CRITIQUE OF ASPECTS OF THE PROPOSED ENVIRONMENTAL PROTECTION ACT

PREAMBLE

These notes have been prepared as a background for the Canadian Environmental Advisory Council (CEAC) meeting held on February 10-12, 1987 in Toronto. The aim is to expose the issues and suggest a framework for discussion of some of the technical and scientific aspects of the Act. The documents which have been considered are listed in the Appendix: Referenced Documents and are identified by phrases such as "Green Book". I have benefitted greatly from discussions with numerous individuals in various agencies, to whom I am very grateful.

A diversity of opinion was conveyed to me. I have tried to express this diversity.

SOME BACKGROUND THOUGHTS AND PREJUDICES

The Environmental Contaminants Act (ECA) was passed in 1974. It has proved to be ineffective as a result of several weaknesses, e.g. the fact that since then there have been changes in knowledge about toxic chemicals. None of the previous Ministers saw fit to introduce a new act. The present Minister is thus to be complimented on attempting to bring a new legal instrument to bear on this issue.

There is a widely held view that the public pressure for action on "toxics" has resulted in a political response which has finally activated a Department which in many parts has been reluctant to intervene and enforce.

In other parts of the Department of the Environment (DOE) there is enthusiasm and a feeling that perhaps finally DOE is "getting its act together" on toxics. The Act will be a "shot in the arm" for those in the public service who genuinely want to effect improvements in environmental quality.

There is also a cynical view that the proposed Environmental Protection Act (EPA) is a cosmetic act aimed to create an impression of harsh treatment of polluters while in reality there is no intention to tackle existing chemical problems, nor to devote more resources. It merely "solves" a rather minor problem (new chemicals) and will fail to protect the environment against existing chemical discharges. Besides, it will be many years before it comes into effect.

There is a common public perception that the government should ban the manufacture, import or use of a large number of toxic chemicals. In my opinion, this is a misperception. Chemicals are of themselves not a problem; they only become a problem if allowed to reach certain places, especially vulnerable organisms, in certain amounts. The chemicals merely behave according to the laws of nature - which we understand fairly well, so the aim should be to <u>manage</u> them, not necessarily ban them. Some chemicals such as

PCBs require very tight control and should be used only where absolutely necessary. Others require little or no control. The aim should be to manage their life from cradle to grave competently and with sensitivity to their possible adverse effects. Ultimately the aim of the Act is thus to manage appropriately, not to ban. This management must be based on understanding and should include provision for ultimate destruction or immobilization. In many respects society has failed to create an adequate management system. For example, it is a disgrace that we have no adequate destruction facilities for chemicals such as PCBs.

DOE has produced an excellent, innovative, far sighted, well intentioned statement of this philosophy in its From Cradle to Grave Report. To the extent that the Act is to be the implementation of that intent to manage new and existing chemicals, we have cause for celebration.

My perception of the Act as it stands is that from the technical viewpoint it is largely an enabling document. Most of the "meat" will be in the regulations. We can only guess at the content of the regulations from the various supporting documents which have been published. Another area in which there is uncertainty is the enthusiasm for enforcement and the allocation of resources which will result following the establishment of the Act.

A major issue and cause for concern is the proposed treatment of existing versus new chemicals. Existing chemicals cause present problems. New chemicals may cause future problems.

THE CANADIAN CHEMICAL MANUFACTURING AND IMPORTING INDUSTRY AND THEIR CHEMICALS

There are about 250 manufacturers in Canada producing some 1300 chemicals with a value of 70 percent of the total used in Canada. Another 10,000 importers bring in perhaps 60,000 chemicals which in total amount to 30 percent of the value (Green Book, page 72).

There are about seven million chemicals characterized by Chemical Abstracts but only 100,000 of these are believed to be produced in tonne quantities.

Each year 1500 to 2000 new chemicals are introduced world-wide.

The large majority of chemicals (by tonnage and value, not by number), are "harmless" (e.g. salt, sugar) or have well understood environmental effects (e.g. sulfuric acid, polyethylene). Drugs, pesticides and food additives are treated separately because their direct administration could cause severe human health problems (e.g. phthalidomide).

Most jurisdictions now have lists of "nasty" chemicals. The most frequently used list in North America is the United States Environmental Protection Agency "Priority Pollutant" list, a copy of which is provided in Table 1. DOE has only five classes of chemicals (Proposed Act, page 47) in the ECA, but there are other lists within DOE which contain nearly 1000 chemicals. Other lists have been compiled by Transport Canada, provinces such as Ontario,

states such as Michigan (Table 2), international agencies such as the International Joint Commission and the International Register of Potentially Toxic Chemicals [an arm of United Nations Environmental Program (UNEP)] and other agencies.

The significant point is that DOE has been very backward in its compilation of priority lists. This must be remedied at an early date if the Act is to have credibility. There should be no difficulty in establishing a list of 100 to 200 priority chemicals.

NEW CHEMICALS ASSESSMENT, THE U.S. PROCESS

It is useful to consider the United States effort on new chemicals. The United States Environmental Protection Agency has a system in place under its Toxic Substances Control Act (TOSCA) and its insecticide act (FIFRA). Attached is a contents page from the Environmental Protection Agency's New Chemical Review Process Manual and a Flowchart. It is a fast, efficient process with a staff of 200 to 300 handling 1000 to 1500 chemicals per year. The following is an approximate account of the process.

Some chemicals (e.g. high polymers) are obviously harmless and are dropped, and about 1000 are left for assessment. The assessment is made largely on the basis of reported chemical structure alone, only about 10 percent having reported toxicity data. Perhaps 10 percent have high toxicity (i.e. LC50 10 mg/L) and few are persistent. An estimation is made of likely environmental concentrations (exposure) and how close these will be to levels that cause toxicity. If it is judged that there is a prospect of toxic effects more data are sought and the assessment process repeated until either the chemical is deemed to be harmless or it is "regulated".

Regulation is usually by a "consent order" restricting uses, sites, labelling, etc. If the chemical has a new use or is used in greater quantities a "Significant New Use Rule" (SNUR) is devised to treat this change.

Very few chemicals (perhaps 10 to 30 per year) are regulated severely and very few, if any, are banned. In the dialogue between EPA and the manufacturer a "nasty" chemical will become clearly so, and it is likely that the manufacturer will withdraw it to avoid trouble in the future (e.g. Monsanto and PCBs).

The process thus successfully influences the introduction of new chemicals to prevent future problems.

It is a calm, mature intervention which works smoothly and apparently with relatively little acrimony or confrontation.

TABLE 1 *

EPA list of 129 Priority Pollutants and the relative frequency of these materials in industrial wastewaters

Percent of samples[a]	Number of industrial categories[b]		Percent of samples[a]	Number of industrial categories[b]	
		31 are purgeable organics			
1.2	5	Acrolein	2.1	5	1,2-Dichloropropane
2.7	10	Acrylonitrile	1.0	5	1,3-Dichloropropene
29.1	25	Benzene	34.2	25	Methylene chloride
29.3	28	Toluene	1.9	6	Methyl chloride
16.7	24	Ethylbenzene	0.1	1	Methyl bromide
7.7	14	Carbon tetrachloride	1.9	12	Bromoform
5.0	10	Chlorobenzene	4.3	17	Dichlorobromomethane
6.5	16	1,2-Dichloroethane	6.8	11	Trichlorofluoromethane
10.2	25	1,1,1-Trichloroethane	0.3	4	Dichlorodifluoromethane
1.4	8	1,1-Dichloroethane	2.5	15	Chlorodibromomethane
7.7	17	1,1-Dichloroethylene	10.2	19	Tetrachloroethylene
1.9	12	1,1,2-Trichloroethane	10.5	21	Trichloroethylene
4.2	13	1,1,2,2-Tetrachloroethane	0.2	2	Vinyl chloride
0.4	2	Chloroethane	7.7	18	1,2-trans-Dichloroethylene
1.5	1	2-Chloroethyl vinyl ether	0.1	2	bis(Chloromethyl) ether
40.2	28	Chloroform			
		46 are base/neutral extractable organic compounds			
6.0	9	1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene	5.7 7.2 5.1	11 12 9	Fluorene Fluoranthene Chrysene
0.5	5	Hexachloroethane	7.8	14	Pyrene
0.2	1	Hexachlorobutadiene	10.6	16	Phenanthrene Anthracene
1.1	7	Hexachlorobenzene			
1.0	6	1,2,4-Trichlorobenzene	2.3	6	Benzo(a)anthracene
0.4	3	bis(2-Chloroethoxy) methane	1.6	6	Benzo(b)fluoranthene
10.6	18	Naphthalene	1.8	6	Benzo(k)fluoranthene
0.9	9	2-Chloronaphthalene	3.2	8	Benzo(a)pyrene
1.5	13	Isophorone	0.8	4	Indeno(1,2,3-c,d)pyrene
1.8	9	Nitrobenzene	0.2	4	Dibenzo(a,h)anthracene
1.1	3	2,4-Dinitrotoluene	0.6	7	Benzo(g,h,i)perylene
1.5	9	2,6-Dinitrotoluene	0.1	2	4-Chlorophenyl phenyl ether
0.04	1	4-Bromophenyl phenyl ether	0	0	3,3'-Dichlorobenzidine
41.9	29	bis(2-Ethylhexyl) phthalate	0.2	4	Benzidine
6.4	12	Di-*n*-octyl phthalate	1.1	4	bis(2-Chloroethyl) ether
5.8	15	Dimethyl phthalate	0.8	7	1,2-Diphenylhydrazine
7.6	20	Diethyl phthalate	0.1	1	Hexachlorocyclopentadiene
18.9	23	Di-*n*-butyl phthalate	1.2	5	N-Nitrosodiphenylamine
4.5	12	Acenaphthylene	0.1	1	N-Nitrosodimethylamine
4.2	14	Acenaphthene	0.1	2	N-Nitrosodi-*n*-propylamine
8.5	13	Butyl benzyl phthalate	1.4	6	bis(2-Chloroisopropyl) ether
		11 are acid extractable organic compounds			
26.1	25	Phenol	1.9	8	*p*-Chloro-*m*-cresol
2.3	11	2-Nitrophenol	2.3	10	2-Chlorophenol
2.2	9	4-Nitrophenol	3.3	12	2,4-Dichlorophenol
1.6	6	2,4-Dinitrophenol	4.6	12	2,4,6-Trichlorophenol
1.1	6	4,6-Dinitro-o-cresol	5.2	15	2,4-Dimethylphenol
6.9	18	Pentachlorophenol			
		26 are pesticides/PCB's			
0.3	3	α-Endosulfan	0.3	3	Heptachlor
0.4	4	β-Endosulfan	0.1	1	Heptachlor epoxide
0.2	2	Endosulfan sulfate	0.2	4	Chlordane
0.6	4	α-BHC	0.2	2	Toxaphene
0.8	6	β-BHC	0.6	2	Aroclor 1016
0.2	4	δ-BHC	0.5	1	Aroclor 1221
0.5	3	γ-BHC	0.9	2	Aroclor 1232
0.5	5	Aldrin	0.8	3	Aroclor 1242
0.1	3	Dieldrin	0.6	2	Aroclor 1248
0.04	1	4,4'-DDE	0.6	3	Aroclor 1254
0.1	2	4,4'-DDD	0.5	1	Aroclor 1260
0.2	2	4,4'-DDT	--	—	2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD)
0.2	3	Endrin			
0.2	2	Endrin aldehyde			
		13 are metals			
18.1	20	Antimony	16.5	20	Mercury
19.9	19	Arsenic	34.7	27	Nickel
14.1	18	Beryllium	18.9	21	Selenium
30.7	25	Cadmium	22.9	25	Silver
53.7	28	Chromium	19.2	19	Thallium
55.5	28	Copper	54.6	28	Zinc
43.8	27	Lead			
		Miscellaneous			
33.4	19	Total cyanides	Not available		Asbestos (fibrous)
			Not available		Total phenols

[a] The percent of samples represents the number of times this compound was found in all samples in which it was analyzed for divided by the total as of 31 August 1978. Numbers of samples ranged from 2532 to 2999 with the average being 2617.
[b] A total of 38 industrial categories and subcategories were analyzed for organics and 28 for metals as of 31 August 1978.

* Unites States Environmental Protection Agency List (1987)

TABLE 1 (cont'd)

SCHEDULE IV

(*Section 18*)

1. Chlorobiphenyls that have the molecular formula $C_{12}H_{10-n}Cl_n$ in which "n" is greater than 2.

2. Dodecachloropentacyclo [5.3.0.$0^{2,6}$.$0^{3,9}$.$0^{4,8}$] decane.

3. Polybrominated Biphenyls that have the molecular formula $C_{12}H_{10-n}Br_n$ in which "n" is greater than 2.

4. Chlorofluorocarbon: totally halogenated chlorofluoro carbons that have the molecular formula $C_nCl_xF_{(2n+2-x)}$.

5. Polychlorinated Terphenyls that have a molecular formula $C_{18}H_{14-n}Cl_n$ in which "n" is greater than 2.

ANNEXE IV

(*article 18*)

1. Les biphényles chlorés dont la formule moléculaire est $C_{12}H_{10-n}Cl_n$, où «n» est plus grand que 2.

2. Le dodécachloropentacyclo [5.3.0.$0^{2,6}$.$0^{3,9}$.$0^{4,8}$] décane.

3. Les biphényles polybromés dont la formule moléculaire est $C_{12}H_{10-n}Br_n$, où «n» est plus grand que 2.

4. Les chlorofluoroalcanes complètement halogénés dont la formule moléculaire est $C_nCl_xF_{(2n+2-x)}$.

5. Les triphényles polychlorés dont la formule moléculaire est $C_{18}H_{14-n}Cl_n$, où «n» est plus grand que 2.

* DOE proposed Environmental Protection Act, page 47

TABLE 2

Michigan Water Resources Commission
CRITICAL MATERIALS REGISTER
Published October 1, 1981

With the exception of Critical Material classes (where all compounds of the material are to be reported) the parameter number assigned each Critical Material is from the Chemical Abstract Service "Registry Handbook." Additional information concerning the Critical Materials Program and the individual materials may be obtained by writing:

Critical Materials Program
Office of Toxic Materials Control
Environmental Services Division
Michigan DNR
P.O. Box 30028
Lansing, Michigan 48909

I Inorganic Materials

A. The following inorganic materials and *all their compounds* are to be reported.

	Parameter Number
antimony	Class-01-0
arsenic	Class-01-1
beryllium	Class-01-2
cadmium	Class-01-3
chromium	Class-01-5
cobalt	Class-01-6
copper	Class-01-7
cyanides	Class-01-8
hypochlorite	Class-01-4
lead	Class-01-9
lithium	Class-02-0
mercury	Class-02-1
nickel	Class-02-2
selenium	Class-02-3
silver	Class-02-4
zinc	Class-02-7

B. The following specific inorganic materials are to be reported (do not report compounds)

	Parameter Number
chloramines	Class-08-6
chlorine	07782-50-5
hydrazine	00302-01-2
hydrogen sulfide	07783-06-4

II Organic Materials

	Parameter Number
acetone cyanohydrin	00075-86-5
2-acetylaminofluorene	00053-96-3
acrolein	00107-02-8
acrylic acid	00079-10-7
acrylonitrile	00107-13-1
allyl chloride	00107-05-1
2-aminoanthraquinone	00117-79-3
aminoazobenzene	00060-09-3
o-aminoazotoluene	00097-56-3
4-aminobiphenyl	00092-67-1
3-amino-9-ethylcarbazole	00132-32-1
1-amino-2-methylanthraquinone	00082-28-0
aminotriazole (amitrole)	00061-82-5
aniline	00062-53-3
aniline hydrochloride	00142-04-1
o-anisidine	00090-04-0
o-anisidine hydrochloride	00134-29-2
benz(a)anthracene	00056-55-3
benzene	00071-43-2
benzidine	00092-87-5
benzidine salts	Class-08-7
benzo(a)pyrene	00050-32-8
brucine	00357-57-3
carbon tetrachloride	00056-23-5
chlorinated dibenzofurans	Class-05-3
chlorinated dioxins	Class-05-4
1-chloro-2,3-epoxypropane	00106-89-8
bis(2-chloroethyl)ether	00111-44-4
chloroform	00067-66-3
bis(chloromethyl)ether	00542-88-1
3-(chloromethyl)pyridine hydrochloride	06959-48-4
1-(4-chlorophenyl)-3,3-dimethyl triazene	07203-90-9
4-chloro-m-phenylenediamine	05131-60-2
4-chloro-o-phenylenediamine	00095-83-0
chloroprene	00126-99-8
5-chloro-o-toluidine	00095-79-4
p-cresidine (5-methyl-o-anisidine)	00120-71-8
2,4-diaminoanisole sulfate	39156-41-7
4,4'-diaminodiphenyl ether	00101-80-4
2,4-diaminotoluene	00095-80-7
dibenz(a,h)anthracene	00053-70-3
tris(dibromopropyl)phosphate	00126-72-7
di-n-butyl phthalate	00084-74-2
3,3'-dichlorobenzidine	00091-94-1
3,3'-dichlorobenzidine salts	Class-08-8
1,2-dichloroethane	00107-06-2
1,2,3,4-diepoxybutane	00298-18-0
diethyl sulfate	00064-67-5
4-dimethylaminoazobenzene	00060-11-7
dimethylhydrazines	Class-06-2
4,6-dinitro-o-cresol	00534-52-1
2,4-dinitrophenol	00051-28-5
2,4-dinitrotoluene	00121-14-2
di-n-octyl phthalate	00117-84-0
1,4-dioxane	00123-91-1
2,3-epoxy-1-propanal	00765-34-4
ethylene dibromide	00106-93-4
ethyleneimine	00151-56-4
ethylene oxide	00075-21-8
ethylene thiourea	00096-45-7
bis(2-ethylhexyl)phthalate	00117-81-7
ethylmethanesulfonate	00062-50-0
2-(2-formylhydrazino)-4-(5-nitro-2-furyl)-thiazole	03570-75-0
hexachlorobenzene (HCB)	00118-74-1
hexachlorobutadiene	00087-68-3
hexachlorocyclohexane	00608-73-1
hexachlorocyclopentadiene	00077-47-4
hexachloroethane	00067-72-1
hydrazobenzene	00122-66-7
hydroquinone	00123-31-9
N-(2-hydroxyethyl)ethyleneimine	01072-52-2
lactonitrile	00078-97-7
malachite green (C.I. Basic Green 4)	00569-64-2

* indicates new critical material

TABLE 2 (cont'd)

Organic Materials (continued)	Parameter Number
methylenebis(2-chloroaniline)	00101-14-4
4,4'-methylenebis(2-methylaniline)	00838-88-0
4,4'-methylenebis(N,N-dimethylaniline	00101-61-1
1,2-(methylenedioxy)-4-propenyl benzene	00120-58-1
methyl hydrazine	00060-34-4
** methyl mercaptan	00074-93-1
1-methylnaphthalene	00090-12-0
2-methyl-1-nitroanthraquinone	00129-15-7
mustard gas	00505-60-2
1,5-naphthalenediamine	02243-62-1
1-naphthylamine	00134-32-7
2-naphthylamine	00091-59-8
5-nitroacenaphthene	00602-87-9
5-nitro-o-anisidine	00099-59-2
4-nitrobiphenyl	00092-93-3
nitrogen mustard	00051-75-2
N-nitroso-n-butyl-N-(4-hydroxybutyl) amine	03817-11-6
* N-nitroso-di-n-butylamine	00924-16-3
N-nitrosodiethylamine	00055-18-5
N-nitrosodimethylamine	00062-75-9
p-nitrosodiphenylamine	00156-10-5
N-nitroso-N-ethylurea	00759-73-9
N-nitroso-N-methylurea	00684-93-5
N-nitroso-N-methylurethane	00615-53-2
N-nitrosomorpholine	00059-89-2
N-nitroso-N-phenylhydroxylamine, ammonium salt	00135-20-6
N-nitrososarcosine	13256-22-9
pentachloronitrobenzene	00082-68-8
pentachlorophenol	00087-86-5
peroxyacetic acid	00079-21-0
piperonyl sulfoxide	00120-62-7
polybrominated biphenyls (PBB)	Class-07-8
polychlorinated biphenyls (PCB)	Class-07-9
1,3-propane sultone	01120-71-4
β-propiolactone	00057-57-8
5-propyl-1,3-benzodioxole	00094-58-6
propyleneimine	00075-55-8
semicarbazide	00057-56-7
styrene	00100-42-5
* 1,1,2,2-tetrachloroethane	00079-34-5
tetrachloroethylene (perchloroethylene)	00127-18-4
thioacetamide	00062-55-5
4,4'-thiodianiline	00139-65-1
thiourea	00062-56-6
o-toluidine	00095-53-4
o-toluidine hydrochloride	00636-21-5
triaryl phosphate esters	Class-08-4
1,1,2-trichloroethane	00079-00-5
trichloroethylene	00079-01-6
trichlorophenols	Class-07-6
2,4,5-trimethylaniline	00137-17-7
trimethylphosphate	00512-56-1
xylene	01330-20-7

III Pesticides (to be reported only by manufacturers and formulators)

	Parameter Number
aldicarb	00116-06-3
aldrin	00309-00-2
4-aminopyridine	00504-24-5
anilazine	00101-05-3
antimycin A	01397-94-0
azinphos-ethyl	02642-71-9
azinphos-methyl	00086-50-0
barban	00101-27-9
bendiocarb	22781-23-3
benomyl	17804-35-2
bromoxynil	01689-84-5
2-(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite	00140-57-8
captafol	02425-06-1
captan	00133-06-2
carbaryl	00063-25-2
carbofuran	01563-66-2
carbophenothion	00786-19-6
chlordane	00057-74-9
chlordecone	00143-50-0
chlorfenvinphos	00470-90-6
chlorobenzilate	00510-15-6
chlorpyrifos	02921-88-2
clonitralid	01420-04-8
coumaphos	00056-72-4
crotoxyphos	07700-17-6
cycloheximide	00066-81-9
DDT	00050-29-3
demeton *	08065-48-3
diallate	02303-16-4
diazinon	00333-41-5
dibromochloropropane (DBCP)	00096-12-8
dichlone	00117-80-6
dichlorvos	00062-73-7
dicrotophos	00141-66-2
dieldrin	00060-57-1
dimethoate	00060-51-5
dinocap	39300-45-3
dinoseb	00088-85-7
dioxathion	00078-34-2
disulfoton	00298-04-4
endosulfan	00115-29-7
endrin	00072-20-8
EPN	02104-64-5
ethion	00563-12-2
fensulfothion	00115-90-2
fenthion	00055-38-9
fluchloralin	33245-39-5
heptachlor	00076-44-8
heptachlor epoxide	01024-57-3
leptophos	21609-90-5
malathion	00121-75-5
methomyl	16752-77-5
methoxychlor	00072-43-5
methyl parathion	00298-00-0
mevinphos	07786-34-7
mexacarbate	00315-18-4
mirex	02385-85-5
monocrotophos	06923-22-4
naled	00300-76-5
nicotine	00054-11-5
nitrofen	01836-75-5
oxydemeton-methyl	00301-12-2
paraquat	01910-42-5
parathion	00056-38-2
phorate	00298-02-2
phosazetim	04104-14-7
phosmet	00732-11-6
phosphamidon	13171-21-6
rotenone	00083-79-4
silvex, propylene glycolbutyl ether ester	02317-24-0
sodium fluoroacetate	00062-74-8
strychnine	00057-24-9
sulfallate	00095-06-7
sulfotepp	03689-24-5
TDE	00072-54-8
TEPP	00107-49-3
terbufos	13071-79-9
tetrachlorvinphos	00961-11-5
thiram	00137-26-8
toxaphene	08001-35-2
trichlorfon	00052-68-6
trichlorophenoxyacetic acid (2,4,5-T)	00093-76-5
trifluralin	01582-09-8
ziram	00137-30-4

IV. Drugs, Food Additives, Natural Materials (to be reported only by manufacturers and formulators)

	Parameter Number
actinomycin D	00050-76-0
citrus red no. 2	06358-53-8
cycasin	14901-08-7
cyclophosphamide	00050-18-0
diethylstilbestrol	00056-53-1
isonicotinic acid hydrazine	00054-85-3
lasiocarpine	00303-34-4
mestranol	00072-33-3
methylthiouracil	00056-04-2
mitomycin C	00050-07-7
monocrotaline	00315-22-0
niridazole	00061-57-4
nithiazide	00139-94-6
N-[4-(5-nitro-2-furanyl)-2-thiazolyl]acetamide	00531-82-8
phenazopyridine hydrochloride	00136-40-3
phenesterin	03546-10-9
phenobarbitol	00050-06-6
phenytoin	00057-41-0
phenytoin sodium	00630-93-3
propylthiouracil	00051-52-5
uracil mustard	00066-75-1

* indicates new critical material
** previously included with pesticides

New Chemical Review

Process Manual*

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Appendix A Functions of Divisions and Branches in the New Chemical Review Process
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Appendix F Major Databases Searched
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Glossary

Bibliography

*United States Environmental Protection Agency, Manual 560/3-86-002 (March 1986)

EPA

Introduction

The purpose of this manual is to provide an introduction to the new chemical review process as it takes place in the Office of Toxic Substances (OTS). Organized chronologically, the manual presents the process in terms of component procedures and meetings. The description of each meeting includes a discussion of objectives, participants, preparation, and accomplishments (decisions and written output). Divisions and branches that participate in the process are described in Appendix A, Functions of Divisions and Branches in the New Chemical Review Process. A flow diagram of the new chemical review process may aid understanding of the text; the New Chemical Review Process Diagram can be found in Appendix C. Reports are discussed in the context of preparation for a meeting or as written output resulting from a meeting. The manual also presents EPA's statutory authority and options for action under §5 of the Toxic Substances Control Act (TSCA).

New chemical review is mandated by TSCA. Any person who intends to manufacture or import a new chemical substance is required to provide to EPA available data on the chemical structure, production, use, release, exposure, and health and environmental effects. The submitter of new chemical information may claim that any part of the data supplied to EPA is entitled to confidential treatment. Confidentiality procedures have been developed to protect such information (see Appendix E). In reviewing and regulating new chemicals, EPA utilizes an integrated approach that draws on knowledge and experience across disciplinary and organizational lines to identify and evaluate concerns regarding health and environmental effects, exposure and release, and economic impacts.

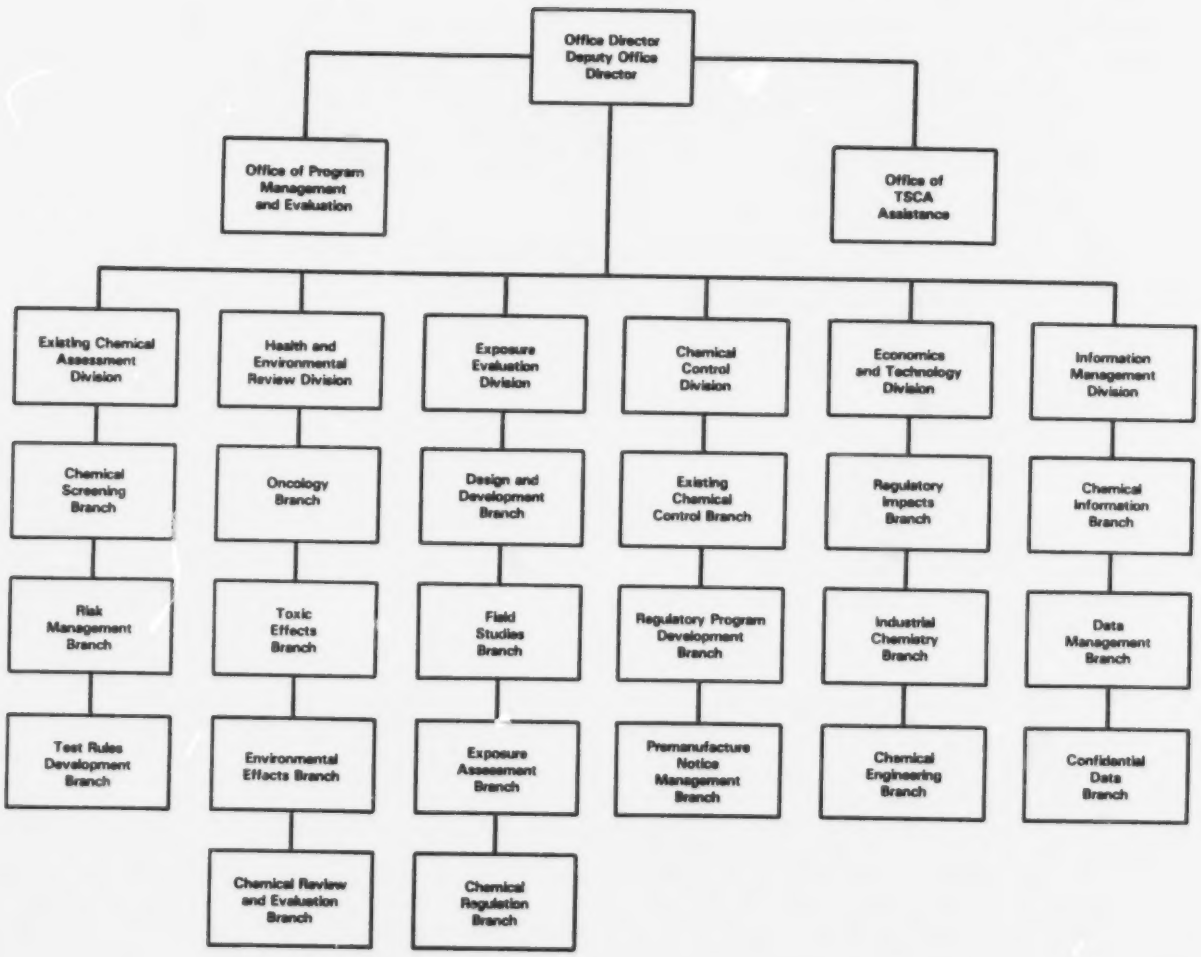
Submissions that activate new chemical review may be either a Premanufacture Notice (PMN), a polymer or low volume exemption notice, or test marketing exemption application. Exemption applications and notices take certain production or chemical parameters into account that, if verified to meet requirements, exempt the manufacturer of the substance from being subject to an entire PMN review process.

The manual contains seven chapters as follows:

- Chapter I, "Pre-Notice," describes procedures that take place up to the time that the submission is received by EPA;
- Chapter II, "Pre-Notice/Receipt to Focus Meeting," describes procedures and meetings that take place up through the Focus Meeting, which is the first point in the process at which a regulatory decision is made;
- Chapter III, "Focus to Division Directors' Meeting," describes the process that guides development of cases that remain in review after Focus;
- Chapter IV, "Action," describes EPA's options for actions under §5 of TSCA and circumstances under which EPA will litigate to regulate under §5;
- Chapter V, "Exemptions," describes submitter requirements and EPA procedures regarding exemption applications and notices;
- Chapter VI, "Follow-Up Review," describes activities to evaluate possible new uses of chemicals referred by new chemical review and to assess the hazard potential of such chemicals under changed conditions;
- Chapter VII, "Post-Review," describes procedures for Notice of Commencement, substantiation of confidentiality claims, and generic name development.

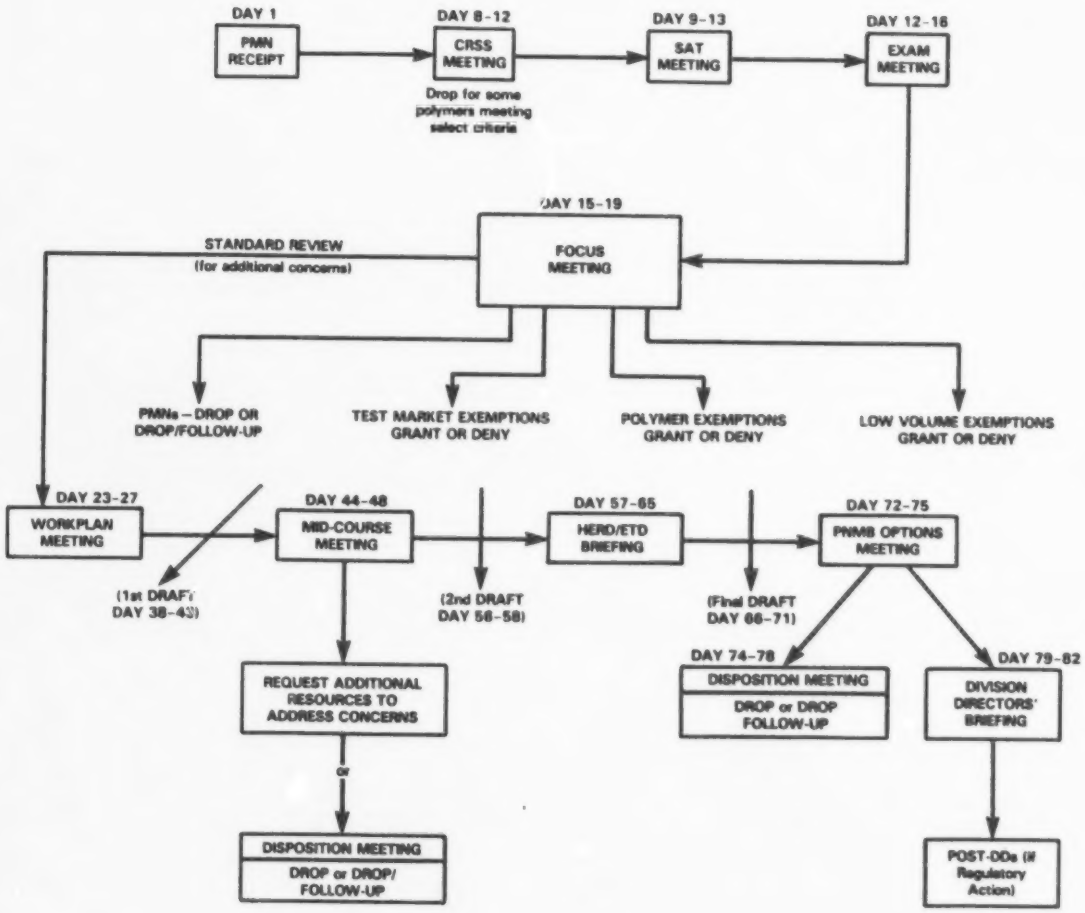
Appendices A through G, the Glossary of terms and abbreviations used in the manual, and the Bibliography, provide additional information pertaining to new chemical review in OTS. Appendix A is a table, "Functions of Divisions and Branches in the New Chemical Review Process." Appendix B is an OTS organizational chart, Appendix C is a flow diagram of the new chemical review process, and Appendix D is a meeting schedule. Appendix E discusses confidential business information, Appendix F provides a list of major databases searched, and Appendix G is the form that submitters complete for new chemical review. The Bibliography provides citations for background materials regarding legal authority and regulatory development of new chemical review.

From: United States Environmental Protection Agency Manual 560/3-86-002



From: United States Environmental Protection Agency Manual 560/3-86-002

New Chemical Review Process
Standard Review



From: United States Environmental Protection Agency Manual 560/3-86-002

O.M.B. No. 2070-0012: Approval Expires 3-3-86

EPA United States Environmental Protection Agency

PREMANUFACTURE NOTICE FOR NEW CHEMICAL SUBSTANCES

When completed send this form to

DOCUMENT CONTROL OFFICER
OFFICE OF TOXIC SUBSTANCES, TS-793
U.S. E.P.A.
401 M STREET, SW
WASHINGTON, D.C. 20460

AGENCY USE ONLY

Date of receipt

Enter the total number of pages in the Premanufacture Notice

Document control number | EPA case number

GENERAL INSTRUCTIONS

You must provide all information requested in this form to the extent that it is known to or reasonably ascertainable by you. Make reasonable estimates if you do not have actual data.

Before you complete this form, you should read the "Instructions Manual for Premanufacture Notification" (**Instructions Manual**).

Part I — GENERAL INFORMATION

You must provide the chemical identity of the new chemical substance, even if you claim the identity as confidential. You may authorize another person to submit the identity for you, but your submission will not be complete and review will not begin until EPA receives this information.

Part II — HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE

You may need additional copies of part II, sections A and B if there are several manufacture, processing, or use operations that you will describe in the notice. You should reproduce these sections as needed.

Part III — LIST OF ATTACHMENTS

You should attach additional sheets if you do not have enough space on the form to answer a question fully. In part III, list these attachments, any test data or other data, and any optional information that you include in the notice.

OPTIONAL INFORMATION

You may include in the notice any information that you want EPA to consider in evaluating the new substance. The **Instructions Manual** identifies categories of optional information that you may want EPA to review.

CONFIDENTIALITY CLAIMS

You may claim any information in this notice as confidential. To assert a claim on the form, mark (X) the confidential box next to the information that you claim as confidential. To assert a claim in an attachment, circle or bracket the information you claim as confidential. If you claim information in the notice as confidential, you must provide a sanitized version of the notice, including attachments, to EPA with your submission. For additional instructions on claiming information as confidential, read the **Instructions Manual**.

Indicate below the categories of information you have claimed as confidential in the notice and the type of notice.

1 ☐ SUBMITTER IDENTITY
2 ☐ CHEMICAL IDENTITY
3 ☐ PRODUCTION VOLUME
4 ☐ USE INFORMATION
5 ☐ PROCESS INFORMATION
6 ☐ PORTIONS OF A MIXTURE
7 ☐ OTHER INFORMATION

☐ PMN
☐ TMEA
☐ SNUR
☐ Exemption — Specify _____

TEST DATA AND OTHER DATA

You are required to submit all test data in your possession or control and to provide a description of all other data known to or reasonably ascertainable by you if these data are related to the health and environmental effects of the manufacture, processing, distribution in commerce, use, or disposal of the new chemical substance. Standard literature citations may be submitted for data in the open scientific literature. Complete test data, not summaries of data, must be submitted if they do not appear in the open literature. Following are examples of test data and other data. You should submit these data according to the requirements of §720.50 of the Premanufacture Notification Rule (40 CFR Part 720).

Test data

- **Environmental fate data**
  - Spectra (UV, visible, and infrared)
  - Density of liquids and solids
  - Water solubility
  - Melting point/melting range
  - Boiling point/boiling range
  - Vapor pressure
  - Partition coefficient, n-octanol/water
  - Biodegradation
  - Hydrolysis (as a function of pH)
  - Photochemical degradation
  - Adsorption/desorption to soil types
  - Dissociation constant
  - Other physical/chemical properties
- **Health effects data**
  - Mutagenicity
  - Carcinogenicity
  - Teratogenicity
  - Acute toxicity
  - Repeated dose toxicity
  - Metabolism studies
  - Sensitization
  - Irritation
- **Environmental effects data**
  - Microbial and algal toxicity
  - Terrestrial vascular plant toxicity (e.g., seed germination studies, growth inhibition)
  - Acute and chronic toxicity to animals (e.g., fish, birds, mammals, invertebrates)

Other data

- **Risk assessments**
- **Structure/activity relationships**
- **Test data not in the possession or control of the submitter**

CONSIDERATIONS

1. The Environmental Protection Agency's Office of Toxic Substances has a staff of 200 to 300 highly competent professionals. This staff includes many active "state of the art" scientists who also do independent research, write books and papers, fund research projects in the universities and consulting organizations, and give presentations at conferences. This is a very highly skilled group, who may at times be forced to proceed on intuition or gut feeling. Can DOE hope to mount a comparable effort?

2. Can Canada differ much from the United States in its approach, given the prospects for freer trade?

3. There was a willingness, even enthusiasm in EPA to help train Canadians to do this job.

4. The present ECA group in Environment Canada numbers about twelve and has had difficulty in recruiting skilled personnel.

5. This shortage occurs despite DOE and other reports that there is enough ecotoxicology training capability in Canada. It is ironic to recall the DOE's subversion of the initiatives to create a Canadian Centre for Toxicology. Manpower availability will probably be the time-limiting factor in the successful implementation of a system similar to that of the United States' EPA.

6. TOSCA does not handle additive toxicity, nor synergism or antagonism (e.g. we regulated all 200 chemicals to be at 1/100th of their toxic level, but the fish died from the total toxic burden!). Its principal weakness is the inability to require more comprehensive data of the type demanded by agencies such as OECD and which will be demanded by the proposed Act. The Act thus has the potential to do better than TOSCA, if implemented properly.

SCHEDULES

An obvious first and invaluable step is to gather information about the chemicals in use in Canada, i.e. prepare schedules or lists. Only the federal government can do this. This is a very positive step, analogous to conducting a census. It would be desirable if this list contained information on quantities, uses and locations. The Green Book (page 12) has a proposed form. The only addition I would suggest is an estimate of the fraction of chemical used which will enter the environment. This would help with monitoring (I've detected compound X in fish - where could it have come from?) and help to establish total loads of toxics to the environment.

The Act proposes four schedules, but does not clearly specify what they are. In "The Right to a Healthy Environment - An Overview of the proposed Environmental Protecton Act" (pages 14 and 15) the intent is described as follows:

"I. The first schedule would list all the chemicals now in use in Canada. The list would identify those chemicals for which industry is not required to notify the Minister of the Environment or submit a data package.

II. The second schedule would list all chemicals known to exist in the world but not yet used in Canada. Should anyone wish to introduce chemicals on this list into Canada, they would be required to notify the Minister of the Environment of their intention and submit a prescribed data package.

For totally new chemicals, which do not appear on either list, the new Act would require notification and the most stringent data package.

III. A third schedule would list chemicals that are banned or severely restricted by federal legislation. The new Act would require Canadian firms exporting such chemicals to notify an authority in the countries to which the chemicals are to be exported.

IV. Finally, there would be a schedule of dangerous chemicals which are subject to regulation under EPA."

This differs somewhat from the Green Book which suggests:

(1) A Canadian Consolidated List
(all chemicals known);

(2) An in-Canada List
(all existing chemicals used in Canada);

(3) A Conditional Inventory List
(chemicals being examined).

The list-to-list changes are described in the Green Book (pages 36 - 40).

The Green Book (pages 56, 57) suggested an additional list for existing chemicals of top priority, on which some 30 chemicals would reside at any time while they are being scrutinized (i.e. within two years). Industry apparently favours the concept of identifying the "nasties", the implication being that the others are "non-nasty". In "Consultations on the proposed Environmental Protection Act" (page 9), this short list became "select the 25 to 50 chemicals that merit priority for review testing and possible control".

I question the intent behind this last statement that only 25 to 50 chemicals should fall in this class of "nasty" existing chemicals, given lists of many hundreds of existing chemicals causing difficulty. This statement leaves an impression of an abdication of responsibility which, if it reflects the real intent behind the proposed Act regarding existing chemicals, is a cause for great concern. The statement is reproduced on the following page.

I understand that Schedule II will be obtained from TOSCA.

Schedule I may take three years to assemble since it will require contact with Canadian industry. Will this delay or prevent any regulatory action being taken until the lists are complete and published?

What is the real intent regarding Schedule IV, i.e. 20 or 500 chemicals?

Where will the ten person years for inventory compilation (Green Book, page 73) come from? There are fears that this work may be carried out at the expense of other activities. Perhaps it could be contracted out.

In my discussions I encountered considerable scepticism that DOE would be vigorous in listing chemicals on Schedule IV. It took 12 years to get five classes listed, three of which are now largely irrelevant. One method of restoring public confidence and demonstrating an intention to regulate, would be to add perhaps 100 to 200 chemicals to the Schedule at the time the Act is proclaimed. There are several lists that could be used as a guide.

THE CHEMICAL DATA REQUIRED

I understand that it is intended that the Regulations will reflect the requirements in the Green Book. There are three levels: Basic, Mini, Full (pages 26 to 33). They basically follow the OECD data set as given in Appendix 5 of the Green Book.

These requirements generally reflect the state of the art in this area. (Note some dissenting views on pages 34, 35 of the Green Book.)

The net result will be a data set which is better than that required by TOSCA and in harmony with OECD requirements. It is a great improvement on the old Act.

It is not clear to me how chemicals present in effluents from, for example, the pulp and paper industry, will be included. The definition of a "toxic substance" may require refinement.

EXISTING CHEMICALS*

Issue:

Given the urgency of dealing with the social and environmental problems associated with existing chemicals, and the limited resources available, what is the most effective way to assess existing chemicals?

Background:

1. During the deliberations of the Environmental Contaminants Act Consultative Committee, the view was expressed that the federal government took too long to assess the health and environmental impacts of too few chemicals and did not allow sufficient involvement of the public or industry in the setting of priorities for assessment.

2. The draft Environmental Protection Bill contains several new and broadened provisions for the collection of information on existing chemicals, for consultation on proposed controls on chemicals and for appeals. There will be an increased level of effort in the Departments of the Environment and of National Health and Welfare to prioritize and assess existing chemicals. The assessments will be publicly available.

3. The proposed new chemicals notification provisions of the draft Environmental Protection Bill will require the development of an inventory of existing chemicals in Canada: this inventory will be a major data source for use in the systematic review of these chemicals.

4. The problems of environmental contamination caused by existing chemicals cannot be dealt with adequately by any one national government alone. It is now accepted that, once released to the environment, many chemicals are transported around the globe through air and water. In recognition of this, Canada is supporting international initiatives to review existing chemicals (e.g. OECD, UNEP) and to seek international agreements to control problem chemicals. This international approach would make best use of the limited resources available in each country and follow general priority setting procedures developed by international groups of experts.

5. There is insufficient information available on most existing chemicals to permit an adequate assessment of their health and environmental hazards. With the thousands of chemicals in use in Canada and around the world, a pragmatic approach is needed to select the 25 to 50 chemicals that merit priority for review, testing and possible control. The factors to be used in selecting chemicals for priority attention by the Canadian government will include: quantities used in Canada; occurrence of the chemical in the Canadian environment; toxic properties; a similarity of the chemical to known toxic chemicals; and evidence that the chemical is likely to persist in the environment for an appreciable period of time.

* From the "Final Report of the Environmental Contaminants Act Amendments Consultative Committee"

THE ASSESSMENT

This is the key and difficult step in deciding how "nasty" a chemical is, what controls it merits, and is the one which keeps 200 people busy at the United States Environmental Protection Agency. Given the data on properties (which affect exposure fate and persistence) and toxicity, how do we decide that a chemical is a threat? Consider these situations:

	Emissions kg/day	Toxicity	Persistence(days)
Chemical A	100	very high	2
Chemical B	1,000	high	2
Chemical C	10,000	medium	2
Chemical D	100,000	low	2
Chemical E	1,000	medium	20
Chemical F	1,000	low	200

All these chemicals could be equally harmful, despite their wide differences in emission rates, toxicity and persistence. The decrease in toxicity from A to D is offset by the increase in amount. The decreased toxicity B,E,F, is offset by the longer persistence which results in higher standing concentrations.

It is expected that the Act would result in the processing of 300 to 1000 new chemicals per year in Canada. There are compelling incentives that the Canadian data requirements, processing procedures and time of processing "harmonize" with other countries, especially the United States (with the prospect of Free Trade) and OECD countries.

If Canada is too restrictive it will place Canadian industry at a disadvantage ("We can't use chemical X to make transistors because we can't import or make it, so we lose out to Japan which has no restrictions on it").

If Canada is too lax it could be used as a testing ground ("Let's introduce it into North America through Canada because they don't care how nasty it is").

There is an obligation, because of the obvious economic and commercial implications, as well as environmental concerns, to clarify and document the assessment process (Green Book, page 36). A good system will "internalize" the process in industry; indeed this is already occurring in the United States, which makes available its computer programs to all those interested, e.g. EXAMS (Exposure Analysis Modeling System).

Until this assessment system is in place there will be no effective action or control. There is as yet no sign of activity on this front. It is analogous to the Revenue Department gathering T4s, etc., but not getting around to designing the tax calculations form.

Note that when the system is in place we will be in the happy position of knowing more about the new chemicals which don't cause problems than about the existing chemicals which do cause problems.

It would be unwise to underestimate the difficulty of establishing an effective and agreed-upon assessment process. This may require a consultative effort similar to that which produced the Green Book. An early start on this important task should be made. A first step would be to examine whether Canadian conditions dictate a change in emphasis of the OECD test procedures.

CONFIDENTIALITY (Green Book, pages 62-69; Proposed EPA, page 10).

The problem is that industry is likely to be guided by its legal advisors to err on the side of regarding all business information as confidential and seek to restrict it. Cosy relationships often develop between regulator and regulatee in such situations. Thus, outside scrutiny is essential. Note the Comments on page 68 of the Green Book. The proposed Environmental Protection Act concerns me because it seems that it is largely up to the manufacturer to decide what is confidential.

EXISTING CHEMICALS

The Proposed Environmental Protection Act has the capacity to allow intervention (if interpreted to do so) to control existing chemicals, but I am concerned whether the resources will be forthcoming. The "white collar crime-pollution" (News Release) is really that of existing chemicals. It is unlikely that anyone is going to be prosecuted for crimes involving new chemicals -- it would be plain stupid to act in defiance of the law on new chemicals. The long section on offences may thus be largely irrelevant to existing chemicals -- or am I mistaken?

DOE could mount an enlightened "existing chemical" program to:

(1) Prepare inventories (planned);

(2) Gather use, quantity, emission data (partly planned);

(3) Gather chemical and toxicity property data;

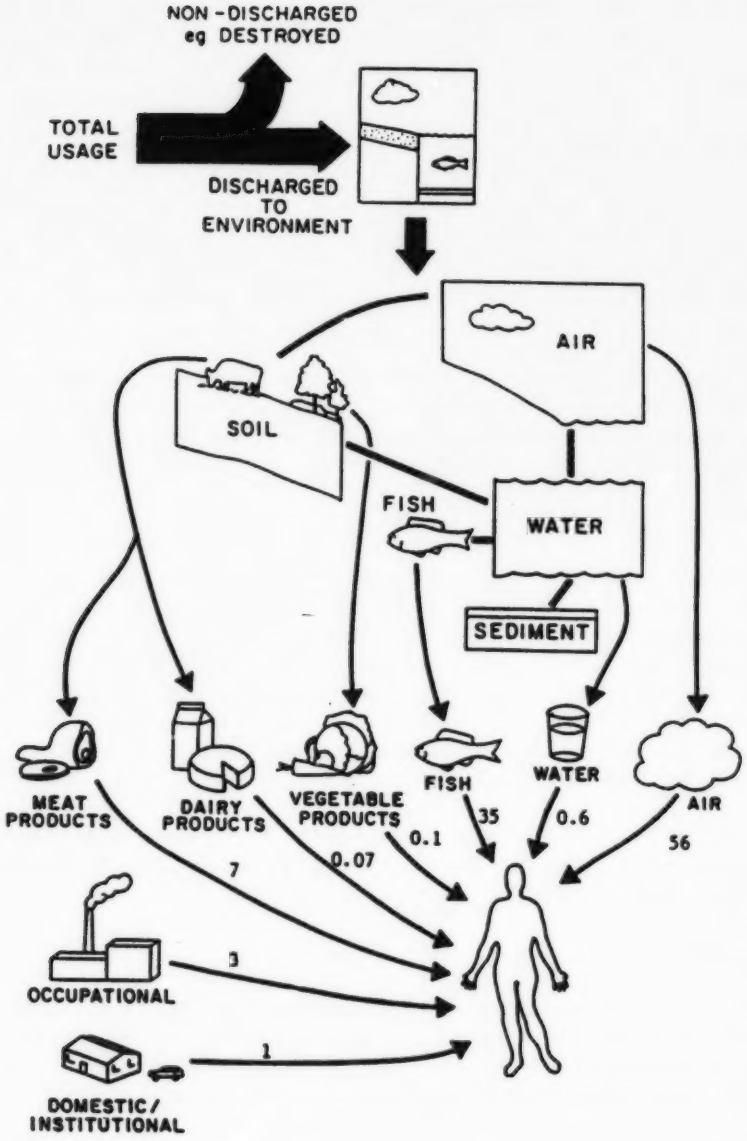
(4) Assess all existing chemicals to assign priorities, detect unsuspected "nasties" and estimate Canadian exposure concentrations;

(5) Monitor the environment to look for these and other chemicals and reconcile prevailing concentrations with expectations from (4);

(6) Take action on the priority chemicals to:

(a) obtain more data, better assessment;
(b) regulate, control emissions, sources; and
(c) provide destruction facilities.

This is just a restatement of the "Cradle to Grave" philosophy as outlined so well in the From Cradle to Grave Report.



This figure is an attempt to depict the assessment process as discussed on page 36 of the "Final Report for the Environmental Contaminants Act Amendments Consultative Committee". The aim is to:

(i) estimate amounts entering the environment;
(ii) estimate concentrations of chemical in air, water, soil, sediment, fish, etc. and the duration of these concentrations i.e. "exposure";
(iii) estimate the effects which these concentrations may have on the ecosystem; and
(iv) identify and quantify the routes to human exposure.

This is a scientifically demanding task which can be helped by the use of various computer models.

Note that this was essentially the philosophy of the NRC Environmental Secretariat which made a judgement about priorities and pursued 6(a) above for a long list of chemicals. The Secretariat was scrapped.

JURISDICTION

There is an important Federal-Provincial jurisdictional problem. Appendix 6 of the Green Book examines this issue briefly. In my naive legal mind the obvious course of action is for the governments to concentrate their activity in the areas designated (by me) on Table 1 of the Green Book, the understanding being that a province can ask for federal activity if it wants it. Obviously there would be cooperation and joint projects, and federal control of federal facilities.

I am concerned that the Proposed Environmental Protection Act represents what may be a "take-over bid" for environmental protection against existing chemicals, with no intent to act. Better to leave this to those provinces which already have effective environmental protection efforts.

THE SCIENCE OF ENVIRONMENTAL TOXICOLOGY

Successful implementation of the Act will require development and use of the latest science concerning environmental fate, behaviour and effects, and the use of risk assessment techniques. There must be an enhancement of activity and support in this area. Note that the DOE Science Subvention Program for university research in water issues has been cancelled recently.

Will the focus on <u>new</u> chemical issues detract from the already pitiful support for <u>existing</u> chemical work?

CEAC has repeatedly tried to impress Ministers and the senior management of the Department of the need to support more and better science -- all to no avail, I am afraid.

ADVISORY COMMITTEE

The Proposed Environmental Protection Act has provision for an advisory committee (Proposed EPA, page 8, article 12). The Green Book (page 44) recommends an advisory council. The government representatives were obviously very cool to this idea (page 44, line 7) and abstained from discussions.

I question the suggestion of equal business, labour, ENGO representation. What about consumers, the public, the research community, etc? Why does labour merit special treatment? There is no point in having a council unless it has a clear documented mandate.

TABLE 1 *

PROVINCIAL AND FEDERAL AUTHORITIES

FOR ENVIRONMENTAL PROTECTION *

ACTIVITY Pertaining To:	INFORMATION GATHERING	ASSESSMENT	CONTROL
Manufacturing	F,P	F,P	F,P[2]
Processing	F,P	F,P	F,P[2]
Use	F,P	F,P	F,P[2]
Import	F,P	F,P	F
Release From Commercial, Industrial and Governmental Activities 1,			
- spills	F,P	F,P	F,P
- abandonment	F,P	F,P	F,P
- releases to air, water, land	F,P	F,P	F,P
- disposal	F,P	F,P	F,P
Environmental Fate and Toxicology	F	F	

* F = Federal authority under Federal Environmental Contaminants Act including proposed amendments.

* P = Provincial authority.

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1. Provincial Legislation in general does not apply to federal facilities.

2. Potentially an indirect control, provincial authority in this area involves the assessment of manufacturing, processing and use activities for the purpose of potentially controlling the release, not the activity.

* From Appendix 6 of the "Final Report of the Environmental Contaminants Act Amendments Consultative Committee" (Modified by the Author)

Has CEAC a role?

Many of the decisions about inclusion/exclusion and control/non-control will be contentious and would benefit from disinterested outside scrutiny. This is an area where the requirements for protection of the environment and human life and health outweigh the demands of special interests.

PESTICIDES AND RADIONUCLIDES

Pesticides are chemicals which are designed to be toxic and to be discharged into the environment to cause a deliberate ecologocal/biological disruption. To exclude them is unfortunate. Ideally there should be close coordination between pesticide and "chemical" assessments. There is a very unfortunate jurisdictional problem here between DOE and Agriculture Canada in which there is a risk that benign chemicals may be more severely regulated than less-benign pesticides.

Possibly some of the most advanced thinking in the federal government in assessing the fate of chemicals, risks, pathways and effects lies in Atomic Energy of Canada Ltd. (AECL), who handle radionuclides. There is scope for cooperation.

TIMING

The Schedules will not be in place for a few years.
When will the regulations be in place?
When will the assessment process be established?
When will improvement in the environment be forthcoming?

RESOURCES

Is the work load going to result in a new increase in DOE person years or just a redeployment? If it is to be redeployment a severe problem arises, because there are very few young "state of the art" scientists in DOE as a result of the recent non-hiring policy and the trend to shut-down scientific activity in general. The "old guard" present complement of scientists is aging and may be largely incapable of the innovative thinking that is needed. There are of course notable exceptions but a massive infusion of fresh blood is desperately needed.

If the Proposed Environmental Protection Act is to be a significant force in bettering the Canadian environment it will require allocation of significant resources. There is fear that this will result in diminishing of programs in agencies such as the Canadian Wildlife Service. It is critically important that the beleaguered scientific effort in DOE be protected from further attrition. CEAC has repeatedly commented on this already to little effect.

TITLE OF THE ACT

The abbreviation "EPA" for Environmental Protection Act is very unfortunate in view of the existence of the Environmental Protection Agency. CEPA (i.e. Canadian EPA) would be better. CEAC should recommend a change before it is too late.

CONCLUDING THOUGHTS

The philosophy behind the EPA as proposed is sound.

Its treatment of new chemicals is excellent provided that:

(i) the regulations will be as specified in the Green Book;
(ii) the timing is reasonable;
(iii) the resources are deployed without diminishing other programs;
(iv) a good assessment process can be defined soon;
(v) there is support of the science of environmental toxicology; and
(vi) there is a sincere intention to enforce.

Its treatment of existing chemicals -- which is the larger and more significant problem, has the potential to be effective. But I am sceptical that, given the problems of satisfying the new chemicals issues above, there will be sufficient energy, resources or enthusiasm to attack the existing chemicals issue. There has to be a separate, defined, existing chemicals program treating not only chemicals of commerce but also byproducts such as chlorinated compounds in pulp mill effluents. An early addition of existing chemicals to Schedule IV would be encouraging.

Existing chemicals do not respect jurisdictional boundaries; thus they must be treated on a national basis, but with a more enlightened federal-provincial program of cooperation. Many of the areas in which the proposed Environmental Protection Act seems to claim federal power would be better left to the willing provinces.

Finally, the presence of the proposed Environmental Protection Act is an encouraging sign. It could signal the start of a more enlightened policy and a redirection of resources to do a few tasks well rather than many tasks badly. Central to the policy must be a financial and personnel commitment to the nourishment of the science of chemical fate and effects in the Canadian environment.

APPENDIX

REFERENCED DOCUMENTS

1. Proposed Environmental Protection Act (Act).
   (Note that two versions are printed, one with explanatory notes).

2. Environmental Protection: A Draft Bill for Discussion Purposes: Explanatory Notes (Notes).

3. Final Report of Environmental Contaminants Act Amendments Consultative Committee (Green Book).

4. From Cradle to Grave: A Management Approach to Chemicals (C to G).

5. The Right to a Healthy Environment -- An Overview of the Proposed Environmental Protection Act (The Right -- Overview).

6. The Right to a Healthy Environment -- Highlights of the Proposed Environmental Protection Act (The Right -- Highlights).

7. Questions and Answers on the Proposed Environmental Protection Act (Q. & A.).

8. Consultations on the Proposed Environmental Protection Act (Consultations).

9. Environmental Protection Act -- Outline for an Enforcement and Compliance Policy. (Enforcement)

10. News Release PR HQ 086-87 "Tough New Environmental Protection Legislation ..." (News Release).

11. Notes for a Statement by the Minister in Ottawa, December 18, 1986.

12. Notes for a Statement by Jean Charest, December 18, 1986.

13. Speaking Notes for Jake Epp, December 18, 1986.

14. Pesticide Use and Control in Canada, 1984.

ANNEX 4

A Statement by the Canadian Environmental Advisory Council

on

ENFORCEMENT PRACTICES OF ENVIRONMENT CANADA

Prepared by Dr. Lorne Giroux
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PREFACE

The Canadian Public expends many millions of dollars annually to support government environmental programs. In return, they expect professional, pro-active protection of their environment, including consistent prosecution of infractions of environmental regulations.

The Canadian Environmental Advisory Council has been concerned for several years with what it perceived to be an inadequate level of enforcement of statutes and regulations which were designed to protect the quality of the environment. This review of enforcement practices was launched late in 1984 at the request of the Minister of the Environment. It is being published as a contribution to the current discussion on amendments to federal environmental legislation, and on compliance policy.

Recent announcements by the Minister of the Environment regarding the approach to be taken in new legislation, including "cradle to the grave" control of toxic substances, and dramatically increased fines for offenders, are encouraging. We believe that a much stronger enforcement effort is justified by past practices and threats to our environment, and will reflect the growing concerns and awareness of Canadians. Hopefully, if the Council were to undertake another review of enforcement practices in three or four years' time, the findings would be much more positive.

Tom Beck
Chairman

INTRODUCTION

This statement was prepared following an initial discussion with the Minister, and the Minister's request that Council identify specific inadequacies in the enforcement of environmental regulations. It is a preliminary assessment of the enforcement policy and practice, but it indicates the need for a thorough, in-depth review.

Council recognizes that there are a variety of ways to implement environmental standards, and enforcement of regulations is only one of the methods which can and should be used. Because of the nature of the discussion and of the Minister's request, Council focused on the enforcement aspect in the preparation of this statement.

GENERAL OBSERVATIONS

The Law Reform Commission of Canada recently studied the enforcement performance of Environment Canada with regard to its laws and regulations, with particular emphasis on procedures coming under Section 33 of the Fisheries Act because of its importance in the area of water pollution control. Council had access to a draft study (still in progress) entitled Policing Pollution: The Prosecution of Environmental Offences, prepared by Lynn B. Huestis under the direction of Edward W. Keyserlingk, Project Coordinator. Although this study focuses on the degree of discretion which exists in the enforcement process, it does provide a fairly accurate picture of the situation in terms of both the general trends and the underlying policies.

The study covers two chronological periods. A review of legal proceedings from 1970 to 1977 reveals two trends. The first concerns the uneven application of sanctions against industry despite a pattern of persistent, nation-wide non-compliance with federal standards for liquid effluent. Secondly, the study indicates that legal proceedings are aimed at unusual spills, lasting a few days or a few hours, rather than continuous discharges resulting from inherent defects in the industrial processes themselves, and which represent continuous transgressions.

From 1970 through 1976, there were 190 Fisheries Act prosecutions Canada-wide of which 150 were initiated in British Columbia, two in Québec, and only one in Ontario. Since other authorities are also responsible for proceedings initiated under the Fisheries Act, such as the federal Department of Fisheries and Oceans and provincial departments of the environment, the role of the Environmental Protection Service (EPS) is made clearer if one considers that for the three-year period extending from 1974 through 1976, EPS was responsible for 35% of all proceedings under the Fisheries Act, i.e. a total of 25 cases. Of these, only one case involved a continuous discharge rather than a spill due to unusual conditions.

The second period, from 1977 to 1982, reveals a striking contrast between provincial legal proceedings, which gradually increase after the late 1970s, especially in British Columbia, and EPS legal proceedings, which show a sharp decline. Thus, EPS conducted 12 Fisheries Act proceedings Canada-wide in 1974, the figure dropping to 5 in 1976 and to only one in 1981. This trend is even more significant if one considers that total Fisheries Act proceedings have remained fairly constant since 1976. The declining interest of EPS in legal proceedings has been offset by an increased number of proceedings under the Fisheries Act initiated by provincial environment departments and by the federal Department of Fisheries and Oceans.

These trends reveal a number of underlying political choices. First of all, it has been the policy of EPS since 1975, to rely on the provinces to implement federal regulations regarding air and water quality control. In 1975, federal agreements known as Accords for the Protection and Enhancement of Environmental Quality were signed with seven of the ten provinces. Under the Accords, the provinces agreed to implement and enforce environmental quality objectives that were as stringent as federal requirements. It is worth noting that these agreements received no legislative approval, as was resolved by the New Brunswick Court of Appeals in R. v. C.I.L. Ltd. (September 9, 1980, vol. 2, Fisheries Pollution Reports, p. 304). Moreover, the agreements do not prevent EPS from initiating legal proceedings to enforce federal environmental laws, since the federal government has retained the residual right to initiate legal proceedings in relation to the agreements. Furthermore, no such accord was ever signed with British Columbia, Newfoundland, or Québec, and, according to Mrs. Huestis, Alberta officially pulled out of the accord in 1983. The status of the accord is now under review in other provinces.

Such a policy of delegating enforcement powers to certain provinces has given rise, as could be expected, to wide discrepancies in terms of enforcement policies across Canada. Its effect received a harsh assessment in the draft study of the Law Reform Commission.

> "Our review of the EPS delegation scheme suggests that federal delegation of environmental enforcement authority amounts to a virtual abdication of responsibility for enforcement and has promoted discrepancies in the nature of enforcement responses across Canada". (Working paper, p. 93).

Another problem has been raised by the existence of interdepartmental conflicts over the administration and enforcement of the Fisheries Act. Administration of the Fsheries Act was divided in 1971 within Environment Canada between the Fisheries Service and EPS on the basis of a departmental agreement known as the Lucas-Weir Memorandum. According to this agreement, EPS was responsible for administering Section 33 of the Fisheries Act. When the Fisheries Service separated from Environment Canada in 1978 and became the Department of Fisheries and Oceans (DFO), administration of Section 33 remained with EPS but the legislative responsibility moved with the Fisheries Service in DFO. In fact, however, while proceedings initiated under Section 33 come under EPS administrative jurisdiction, DFO has taken an increasing and direct role in implementing legislation where there is damage to habitats. As a result, EPS and DFO priorities appear to differ since DFO relies more readily on legal proceedings to prevent or put a halt to habitat damage. Thus, during the late 1970s and early 1980s, DFO was more active in terms of initiating proceedings, as can be seen from the figures quoted above.

The trend towards declining involvement of EPS in implementing environmental laws and regulations can also be explained in terms of the shift towards a new "advocacy" approach. This new policy, developed in 1982 as part of a strategic plan for Environment Canada, redirects the Department from strictly remedial measures to preventive action such as environmental impact assessments. The new approach has also included the concept that departmental policies should try to influence and persuade rather than play a strictly repressive role.

> "Simply put, the goal of the advocacy strategy, and its essence, is:
>
> to manage the production, use, distribution and release of toxic chemicals by attempting to inform, influence and channel the social, economic and political choices involved along environmentally prudent and responsible paths. (...)
>
> By its very nature, the advocacy strategy is long term - and difficult. For the Branch it involves a shift in emphasis from its mandatory role to a more conciliatory role of persuasion - of pursuing the same objective by fostering a social climate which will increasingly recognize environmental values as a critical element in a variety of decisions made now almost exclusively on economic grounds. The regulatory and control approach is essentially reactive - the advocacy approach essentially pro-active."
>
> (A General Strategy for Toxic Chemicals: Opus/EPS 1982, p. 12.).

While the "advocacy" approach was developed as one of many strategies to be used by the Department, it gained such importance that concerns for implementing laws and regulations decreased from 1982 to 1984, with adverse repercussions on legal procedure initiatives. The opinion of your Advisory Council is that the need for a return to proper balance between "advocacy" and enforcement strategies is currently being felt within the Department.

The situation in Québec involves other real or perceived constraints which have had an impact on enforcement procedure effectiveness. In recent years, although no accord was signed by federal authorities and the Québec government along the lines of agreements reached with other provincial governments, the attitude of EPS has been one of restraint based on the fear of causing constitutional and political friction with Québec. For instance, it seems to be implied that EPS will not take steps to enforce regulations under the Fisheries Act when such regulations deal with items already covered by regulations coming under Québec's Environmental Quality Act. Such is the case for the Pulp and Paper Liquid Effluent Regulations, which, Council is informed, are administered by provincial authorities acting within the framework of corresponding provincial regulations, such delegation of administrative powers having occurred at a lower level of authority. Even with respect to pollution sources not covered by specific regulations but falling under the general prohibitions of Sections 31 and 33 of the Fisheries Act, the attitude of EPS has been to leave enforcement initiatives to provincial authorities acting under the Québec Environmental Quality Act.

The net result has been that from 1970 until now, only two charges have been laid by EPS in Québec under Section 33 of the Fisheires Act. In 1972, charges were laid under Section 33(2) against Standard Chemical Ltd. for illegal dumping of mercury into the St. Louis River at Beauharnois. In 1974, charges were laid against Atlantic Towing Ltd. concerning an oil spill at Cap-à-l'Aigle. In both instances, the companies entered a guilty plea and were fined. Council is of the opinion that EPS officials of Environment Canada in Québec have so little experience with proceedings under Section 33 of the Fisheries Act that they clearly have inadequate knowledge of the case law established by courts elsewhere in Canada. As a result, it is possible that they overestimate the difficulties involved in such proceedings, while underestimating the chances of getting a conviction.

SPECIFIC EXAMPLES

A - Québec

Since Québec was a focal point in the discussion between the Minister and Council on the subject of enforcement policies, Council has identified a number of specific instances where, in spite of documented violations of federal environmental protection laws and regulations, it can be seen that enforcement procedures were not used.

First of all, the Law Reform Commission's draft study, based on EPS's own surveys, points out that the frequency of instances of non-compliance with the federal standard for effluents in the pulp and paper industry under the Fisheries Act is highest in Québec. And yet, as was mentioned above, there has never been a case prosecuted in Québec. Furthermore, the effectiveness of a policy of leaving decisions to provincial authorities acting under provincial regulations can be questioned if one considers that, even under provincial regulations, only one case has been prosecuted.

Apart from the Pulp and Paper Liquid Effluent Regulations (C.P. 1971-2281), only the Petroleum Refinery Liquid Effluent Regulations (C.P. 1973-3340) have an equivalent under Quebec's Environmental Quality Act. As a result, the administrative delegation mentioned above cannot be invoked to justify a policy of non-enforcement of federal regulations in instances not covered by an equivalent provincial regulation, or in cases coming directly under Sections 31 and 33 of the Fisheries Act and not covered by a regulation.

And yet, there is a striking difference in terms of enforcement policies between water pollution in the St. Lawrence River due to shipping activities and that due to land-based sources. In the case of shipping activities, cases prosecuted by Transport Canada to ensure enforcement for pollution control regulations coming under the Canada Shipping Act are numerous in Québec, whereas in the case of pollution due to land-based sources, proceedings initiated under the regulations and the Fisheries Act have been non-existent for the past ten years.

In its 1984-89 Strategic Plan, dated October 20, 1983, Environment Canada states the following:

> The Québec Region's Strategic Plan was approved by the Senior Management Committee in the spring of 1984. The priorities for action are the restoration of the St. Lawrence river and the conservation of important areas within its basin; the development of the forest sector; the reduction of acid precipitation; and the reduction and control of toxic chemicals. (Environment Canada: 1984-89 Strategic Plan, internal document, October 20, 1983, p. 17).

Seen against the backdrop of this document, the enforcement record of Environment Canada regarding federal laws and regulations appears very inadequate. EPS studies of water quality in the St. Lawrence River reveal a number of land-based sources of continuous discharge of highly toxic substances which seem to enjoy complete immunity from prosecution.,

A prime example is the case of Tioxide Canada. The company, located at Tracy, operates a pigment plant using a process based on sulphuric acid. The plant has no treatment system whatsoever for its effluent. Each day, the plant discharges an average of 300 metric tons of sulphuric acid into the river as well as a significant quantity of heavy metals. This plant alone is responsible for 25% of the iron, nickel and zinc, and 13% of the chromium discharged by all the industrial plants located along the St. Lawrence River. The plant has been in operation since 1962, and, according to EPS, is in violation of Section 33 of the Fisheries Act. And yet, it has never been prosecuted.

Last March 7, the Société pour vaincre la pollution published a "Map of the Poisoned St. Lawrence River" showing the principal land-based sources of pollution along the St. Lawrence River, and identifying the companies which operate the plants discharging the most toxic effluents. Many of the documentary sources on which the map is based originated outside Environment Canada. The explanatory text which accompanies the map contains the following statement about the policy of the Department of Environment:

> "It must be said that government strategy with respect to those who pollute the St. Lawrence is based on "negotiation" rather than legal and legislative intervention. So far, that strategy does not seem to have brought about any major changes in the amount of toxic materials discharged every day into the St. Lawrence River. (...)
>
> How can the Department of Environment hope to "negotiate" discharge reductions if it almost never uses its legal leverage to bring industrial polluters to the negotiating table?"
>
> (Société pour vaincre la pollution), "La carte du fleuve St-Laurent intoxiqué", Montréal, 1985, pages 12 and 13).

This situation, while appearing to occur more dramatically in Québec, is not limited to Québec. The following examples from other regions serve to illustrate this point and raise questions about the policies of Environment Canada with respect to the enforcement of its laws and regulations.

B - Alberta

Council has been informed of two instances involving the enforcement of federal laws and regulations in National Parks. A few years ago, one of the officials of Banff National Park requested authorization from his superiors to file complaints against Château Lake Louise for violating federal regulations with respect to waste management, causing problems with bears near the hotel. On four occasions, authorization to proceed was refused. In view of the seriousness of the problem, the official decided to file complaints on his own behalf against Château Lake Louise. The hotel was fined a total of $600.00. Nevertheless, the official was reprimanded for misconduct by his superiors. As a result of public pressure, the reprimand was subsequntly removed from his file.

In another instance, in August 1981, park officials alleged that C.P. Rail was causing pollution within the limits of Yoho National Park, but the park superintendent refused to file complaints against the company. Because of the lack of official action, legal proceedings were initiated by individual citizens in February 1982. The complaints alleged contravention of the National Parks Act and Section 33 of the Fisheries Act by C.P. Rail. One year later, a few days before the case was to be heard, the Crown attorney dropped proceedings and the case was closed permanently.

C - Northwest Territories

Council obtained a list of hydrocarbon emissions into the water or onto the ice, as compiled by the Environmental Services Division, Department of Renewable Resources, of the government of the Northwest Territories. The list covers the period from January 1980 to September 1984, and includes reports of over 140 emissions of various sizes. According to information available to Council, only three of the emissions have given rise to proceedings under Section 33 of the Fisheries Act. Some of the spills listed appear to have been minor, but 12 spills were in excess of 20,000 litres each, none of which resulted in prosecution. The liquids spilled included fuel oil, crude oil and diesel fuel.

* * * * *

All these examples raise, in varying degree, the lack of consistency in Environment Canada's enforcement policy and practice regarding the laws under the Department's jurisdiction.

Council is aware that the protection and improvement of environmental quality require a global strategy of intervention based on a variety of means to be used by Environment Canada in implementing its terms of reference. Legal proceedings only represent one of these means, and should not become the sole method of intervention used by the Department at the expense of negotiation, encouragement, or "advocacy" policies.

However, the study carried out by the Law Reform Commission and the observations made by Council point to defects in the implementation of Environment Canada's mandate to ensure compliance with the laws and regulations under its jurisdiction. There is a need for full consideration of these defects, and a need to define more clearly the role to be played by enforcement measures, including legal proceedings, within the range of intervention possibilities available to the Department. Council is of the opinion that some current trends, such as the delegation of administrative powers to provincial authorities and excessive fears of federal-provincial conflicts, are having negative effects on the implementation of Environment Canada's legislative mandate, and undermine the confidence of Canadians in the Department.

Annex 5

MEMBERSHIP
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